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INDEX TO VOLUME XXXIII

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INDEX TO VOLUME XXXIII

January to June, 1918

This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers, are also included. Details of society proceedings, including the names of papers read, officers elected, etc., can be located in

the proceedings under Societies. Editorials, News of the State, Marriages, Deaths, Public Health Items are classified under these headings. The subjects of editorials and public health items also appear alphabetically and are marked (E) and (PH).

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Original Articles

DOUBLE, RECURRENT AND BILATERAL TUBAL PREGNANCIES—AN ANALYSIS OF 89 CASES REPORTED IN THE LITERATURE AND 3 UNPUBLISHED PERSONAL CASES.

AIME PAUL HEINECK, M. D.,
CHICAGO.

Extra-uterine pregnancy is one of the most important maladies of the child-bearing period. It occurs in all races, appears to be less frequent in the colored, "4 negresses in 169 cases."¹ The condition, though more frequently recognized than heretofore is, nevertheless, often overlooked, misdiagnosed and, therefore, mistreated. The safety with which the abdomen is now opened affords opportunity for the recognition, study and relief of many conditions which previously escaped detection. A more complete understanding of tubal gestation will lead to the saving of lives and to the prevention of invalidism.

Tubal gestation, by far the most common variety of ectopic pregnancy, is single, double, or multiple; unilateral or bilateral. It may be a woman's first and last conception; it may be preceded by a long period of infertility; it may end a woman's child-bearing career; it may make future pregnancies impossible; it may precede or follow a normal pregnancy or pregnancies.² It has preceded^{3,4} and has followed uterine abortions.^{5,6} Tubal pregnancy may co-exist with a uterine pregnancy.⁷ It can occur in the absence of other pathological states of the pelvic or other organs. Its occurrence in one tube does not protect against its occurrence in the opposite tube, does not absolutely protect against its recurrence in the same tube.⁸

Double and recurrent tubal pregnancies have not received adequate study and consideration. To facilitate the task of future investigators, I

have collected, studied and analyzed all cases of double and bilateral tubal pregnancies reported with sufficient data in the English, French and German literature from 1908 to 1916, inclusive. Only original reports of cases in which the diagnosis was verified at operation were considered. The statements made in this article are entirely based either on these reported cases or on our unpublished personal cases.

Double tubal pregnancies are almost invariably bilateral; exceptionally unilateral.^{9,10,11}

Double and bilateral tubal pregnancies are either simultaneous or recurrent. If simultaneous, both conceptions begin at or about the same time; both gestations may develop, or one may be interrupted and the other continue. Usually, the two fetal cysts differ in size and destiny. Twenty-nine of the double tubal pregnancies herein considered belong to the simultaneous group.^{12,13,14} One double tubal gestation occurred in a nullipara 41 years old, another in a multipara 45 years of age. The other simultaneous cases in which the age was recorded tabulate as follows:^{15,16}

From 20 to 24, inclusive.....	3 cases, 10.34%
From 25 to 29, inclusive.....	11 cases, 37.93%
From 30 to 34, inclusive.....	7 cases, 24.13%
From 35 to 39, inclusive.....	4 cases, 13.79%

As previously stated, the recurrent type is by far the most frequent (63 cases). Almost always, the recurrence is in the opposite tube. Recurrence of gestation in the same tube is a rarity.¹⁷

The ages of the patients at the time of the second tubal gestation and percentage incidence as to age is shown by the following table:

From 20 to 24 years, inclusive.....	3 cases, 4.76%
From 25 to 29 years, inclusive.....	20 cases, 31.74%
From 30 to 34 years, inclusive.....	20 cases, 31.74%
From 35 to 39 years, inclusive.....	7 cases, 11.11%

Comparison of the two previous tables with the following reveals that the age incidence of tubal gestation is not the same as that of uterine gestation.

Normal births in Chicago based on 3,600 cases (Redfield).

From 20 to 24 years.....	31.95%
From 25 to 29 years.....	29.72%
From 30 to 34 years.....	18.64%
From 35 to 39 years.....	10.14%

Double and bilateral tubal pregnancies can occur at any period of the child-bearing age. We do not know how often tubal pregnancy recurs; we do not know why it occurs. Authors are not agreed as to the frequency of recurrence.^{18,19} The following table shows the frequency of recurrence in the practice of various clinicians—

Hunner	31 cases of tubal gestation, 2 recurred.
Madlener	63 cases of tubal gestation, 3 recurred.
Heineck	70 cases of tubal gestation, 3 recurred.
Lothrop	83 cases of tubal gestation, 3 recurred.
Rosenstein	100 cases of tubal gestation, 6 recurred.
Horrman	101 cases of tubal gestation, 5 recurred.
Wertheim	120 cases of tubal gest., 7 or 8 recurred.
Finsterer	133 cases of tubal gestation, 9 recurred.

One ectopic pregnancy is not necessarily followed by another ectopic pregnancy. Normal pregnancies may be sandwiched in between two extra-uterine gestations.^{3,20,21}

Months, or even years, may elapse between the incidence of pregnancy in one tube and the lodgment of an impregnated ovum in the opposite tube. Some authors reckoned the time interval either between the inception of the two abnormal pregnancies or between the two operations performed for their relief. The latter method is basically faulty.

In our collected cases the interval between the two tubal gestations varied from three months²² to nine years.²³ In 21 cases tubal gestation recurred within one year; in twelve within 3 years. In some cases the time interval between the two tubal gestations was 4 years,^{24,25} 5 years^{26,27} seven years and seven months;²⁸ in others, the time interval was not definitely stated.

Double, recurrent and bilateral tubal pregnancies occurred in women who have never borne living children.^{29,30} Tubal pregnancy has recurred in women who have borne one living child,^{31,32} two children,^{33,34} three children,³⁵ four children,⁶ five children³⁶ and six children.²⁸

Double, recurrent and bilateral tubal pregnancies like other varieties of ectopic gestation not infrequently occur in women who though frequently exposed to pregnancy, have remained

sterile.¹⁹⁻³⁰ In many cases a long period of sterility precedes double, or intervenes between two tubal gestations.^{33,37,28}

The cause of tubal pregnancy, whether single, double or recurrent, is not definitely known. Many hypotheses have been advanced, some very plausible, none of universal application. No causative factor present in every case has been demonstrated. Not uncommonly, coexisting pathological states are found. Are these pathological states coincidental or etiologic factors? With the data at hand, a positive answer is not possible. The problem calling for solution is, why does the impregnated ovum fail to find its way into the uterus.

Inflammatory and other degenerative changes of the tubal wall do not possess the important etiological role formerly attributed to them. Though all conditions that obstruct, delay or hinder the progress of the impregnated ovum to the uterus favor the occurrence of ectopic gestation, still many cases occur in which the existing tubal gestation excepted, there is a total absence of pathological tubal or ovarian changes, congenital or acquired. Actual examination at time of operation has firmly established the fact that an inflammatory condition is not present in all cases. "In a certain proportion of cases, the most careful clinical history and microscopical examination of the specimen will fail to reveal a tangible cause for the condition," Williams.

It has been believed that the predominant cause of tubal pregnancy is salpingitis, post-abortum, post partum or gonorrhoeal in nature, with resulting destruction of the tubal ciliated epithelium. "I have been able to demonstrate the presence of cilia in nearly every pregnant tube which I have examined," Williams.^{36,38} In some cases, the presence of co-existing pelvic pathological states is recorded, cyst of parovarium,²⁸ ovarian cyst,³⁹ polycystic degeneration of left ovary²³. In one case, Puppel removed the left ruptured and pregnant tube and separated the right adnexa from embedding adhesions. One year later, the right tube became pregnant and ruptured. Smith reports a case presenting the similar features. Wesenberg removed a fist-sized Fallopian tube containing coagula and fetal rests. Examining the thickened right tube and finding its fimbriated end closed, he incised the fimbri-

ated end and sewed the tubal mucosa to the tubal serosa. One year later, this repaired tube became pregnant.

All our collected and personal cases were primarily either interstitial,^{44, 24} isthmic,⁴²⁻²³ or ampullary.^{43-44, 45} All the others were bilateral. These 92 cases represent 185 tubal gestations.¹⁵ Not one of these pregnancies, either first or second, went to full term.

Sixteen gestations were subjected to operative relief previous to tubal abortion or tubal rupture.^{54, 46, 36, 6, 22, 47, 14, 26, 48} Thirty-two tubal gestations terminated in abortion; seventy-five in rupture. In the remaining cases, the termination is either not recorded or not definitely stated. Termination depends in great part upon the implantation site of the ovum, thus in the isthmic form, this portion of the tube not admitting of much distention, early rupture is the rule. In the ampullary form, the tubal wall offering less resistance in the ampullary region to the growth of the ovum, abortion is the rule. Tubal abortions are due to rupture through the capsular membrane; they are incomplete,^{9, 13} or complete, incomplete being the more common. Complete tubal abortion implies complete expulsion of the ovum, membrane and contents, into the peritoneal cavity by way of the abdominal ostium of tube. In complete abortion, the hemorrhage is usually slight. In the incomplete type, there is a partial loosening of the ovum from the tubal wall and only parts of the ovum pass into the peritoneal cavity. In incomplete tubal abortion, the hemorrhages recur as evidenced by repeated colicky pains, laminated clots, etc.^{50, 51} Tubal abortion has been appropriately designated by some authors as intra-tubal rupture.

Rupture, extra-tubal, occurs at or near the placental site, taking place either into the peritoneal cavity, or between the folds of the broad ligament. Primary rupture of the ovum, in by far the larger number of cases, occurs previous to or about the eighth week; in a few cases it occurs later.^{19, 52} It may involve any portion of the tube, isthmic,⁴² middle third,³⁴ ampullary,²⁵ and vary in size from a pin point to a tearing asunder of the entire tube.^{38, 52} Even a pin-point rupture may cause a fatal hemorrhage. In the only case of this series in which hemorrhage apparently caused death, the rupture was a small orifice on the free portion of

tube through which chorionic villi projected.⁴² The tubal tissues in contact with the ovum offer slight resistance to the fetal elements and being early invaded by the chorionic villi and fetal cells, they soon undergo degenerative changes. The tubal wall is weakened partly by the continuous and gradually increasing distention exerted by the growing ovum and much more so by the erosive action of the fetal elements upon the maternal tissues. The tubal resistance being thus impaired, rupture is easily brought about either by direct perforation by the growing villi or by any sudden access of pressure, such as is determined by the sudden opening of a large vessel, by the clogging of venous channels, or by slight external violence as vaginal examination, coitus, fall, etc.

Bilateral tubal gestation may terminate in tubal rupture in one tube and in tubal abortion in the other.^{32, 49, 13, 53, 54, 47, 31, 4, 5, 5}

Tubal abortion and tubal rupture, be the latter intra or extra-tubal, are associated with moderate or profuse internal hemorrhage, either in the lumen of the Fallopian tube, between the folds of the broad ligament or into the peritoneal cavity. When capsular rupture takes place in a tube with closed fimbriated end, an hematosalpinx results.⁵⁶ If the rupture involves a part of the tube not covered by peritoneum, an intra-ligamentary hematoma results.⁴⁸ The duration and extent of the hemorrhage will determine the size of the hematoma. When the pressure of the surrounding tissues and extravasated blood equals or exceeds the intravascular pressure, all further hemorrhage is checked. In tubal abortion, and in tubal rupture of a portion of the tube covered by peritoneum, the hemorrhage may be moderate and circumscribed, an hemothecle results;^{36, 25, 122} may be profuse and diffuse, an hemoperitoneum results.

When hemorrhage takes place into the free peritoneal cavity, a practically limitless space, the patient may bleed to death without a drop of blood appearing externally. These profuse hemorrhages into the peritoneal cavity are designated by the French, inondation péritonéale.^{24, 30, 43, 57, 44, 58, 31} Blood extravasated in the lumen of the tube, between the folds of the broad ligament or in the peritoneal cavity, either undergoes absorption, coagulation,⁵¹ organization,¹²⁷ cyst-formation, or suppuration.²²

Fate of the Ovum.—The ovum lodged in a tube being always poorly fixed, poorly nourished; most tubal pregnancies come to an end previous to the eighth week.⁵⁹ When tubal gestation ends this early, be the termination due to ovular apoplexy, tubal abortion or tubal rupture, the ovum is absorbed. This is the fate of young embryos extruded into the peritoneal cavity, if they be not removed by the surgeon. When, after tubal abortion or tubal rupture, the placenta retains some tubal implantation and contracts new attachments to the pelvic wall, rectum or other viscus or viscera, the placental circulation thereby continuing, the pregnancy becomes tubo-abdominal or tubo-peritoneal in type. Absorption is more difficult after the third month.^{60, 61.}

In many operations for early tubal gestation, the embryo is found in the tube or in the abdominal or peritoneal cavities.^{62, 63, 28.} This occurred in nineteen of our patients in which there were found either in the tube or in the peritoneal cavity, one, two and, in one case, three fetuses.^{15.} Most of these were found at the time of the second gestation. The fetuses varied in size from 3 mm. to 20 cm. Ovular debris, placenta, decidual cells,^{64.} fetal rests, chorionic villi, etc.,^{40, 65, 9, 55.} are more frequently found at time of operation than fetuses.^{66.} In 24 cases, the presence of inflammatory adhesions binding the pregnant tube to the pelvic wall, to the omentum,^{57, 28.} to the caput coli,^{27.} etc., is recorded. These adhesions, rarely found at the time of the first operation, are not uncommonly noted in operations for recurrent tubal gestation.^{22, 40.}

The symptoms of tubal gestation, like those of uterine gestation can be classified into presumptive, probable and positive. The positive symptoms of pregnancy; fetal heart sounds, active and passive fetal movements, palpation of fetal parts, are usually not detected until after the fourth month of gestation. Now as 81 per cent.^{50.} of tubal gestations terminate before, at or about their eighth week, it can be seen that the positive signs of tubal pregnancy, corresponding to the positive signs of uterine pregnancy, are rarely present and, therefore, rarely detected. In not one of our cases were any of the positive signs of pregnancy present.

Previous to tubal abortion and to tubal rup-

ture, presumptive signs of pregnancy, such as amenorrhea, nausea and vomiting, bluish discoloration of vaginal walls,^{66.} pigmentation and striae, urinary disturbances, were noted in many of the cases. Amenorrhea is so constant a symptom in tubal pregnancy that its absence is misleading. In 29 cases of simultaneous double tubal pregnancy, a cessation of the menses for a varying period is recorded in twenty-seven cases. In the remaining two cases, amenorrhea is not recorded as present or absent; there was vaginal hemorrhage in both but from the text it is hard to tell whether this uterine hemorrhage was or was not a menstrual hemorrhage. Menstrual irregularity should arouse suspicion.

In the bilateral cases in which gestation was of successive occurrence, cessation of the menses occurred, with few exceptions. The duration of the suppression, of course, varied according to the age of gestation.^{16, 65, 54, 64, 63, 43, 67, 53, 22.} In some in which amenorrhea is not noted, what was mistakenly considered menstrual hemorrhage was a uterine flow incident to the termination of the tubal pregnancy.^{68, 7, 69.}

Other presumptive symptoms such as nausea and vomiting,^{20.} colostrum secretion,^{7.} milk secretion,^{53.} bluish discoloration of the vaginal wall,^{66.} enlargement of breasts,^{39.} etc., are less frequently recorded.

Among the probable signs, the most frequently noted in our series were changes in size, consistency and position of the uterus.^{70, 38, 33, 49.} "The existence of an enlarged uterus at any time during the child-bearing period should be regarded as presumptive evidence of pregnancy until such a possibility has been conclusively eliminated," Williams.

The victim of ruptured tubal gestation is not as a rule struck down without premonitory symptoms or warning. Patient suspects pregnancy. Suspicion of ectopic gestation should be entertained upon the complaint of sudden pelvic pain in a woman of childbearing age. The most characteristic symptoms that confront the clinician are those determined by tubal rupture or by tubal abortion. Both of these accidents are associated with pain and with internal hemorrhage, the extent of which determines the gravity of the case. Very often the patient first comes into the hands of the physician, some

time after she has recovered from the primary shock due to tubal rupture or tubal abortion.

In tubal abortion there may be acute, severe, cramp-like pain, limited to the pelvic region or referred to other portions of the abdomen; there may be absence of pain.²⁰ In many cases of tubal abortion about the only symptom we have is abdominal pain and uterine colic preceding and accompanying the expulsion of the decidual cast. In tubal rupture, the pain is intense, agonizing, may cause the patient's collapse. It is most marked in the lower abdomen and may be referred to the right side, to the left side, to right kidney region, to the rectum, epigastrium, umbilicus.

Coincident with the lodgment and development of the ovum, the uterus, during the first three months of tubal gestation, undergoes hypertrophy and its endometrium becomes converted into a decidua similar to that observed in uterine pregnancy. Soon after the death of the fetus, the decidua is thrown off, being expelled in shreds,³⁶ or as a triangular cast of the uterine cavity,^{31,22} with dimensions corresponding to that of the hypertrophied uterus. According to Rémy, the expulsion of a decidual cast of the uterine cavity is always a sign of ectopic pregnancy.

Though tubal pregnancy and especially bilateral tubal pregnancy, are frequently operative discoveries, the diagnosis being rarely made previous to tubal abortion or tubal rupture, the following symptoms, taken in conjunction with a suggestive history and suggestive pelvic findings, should make one think of the possible existence of tubal gestation.

a. Presence of the presumptive symptoms and signs of pregnancy: Morning sickness, milk and colostrum secretion, pelvic pains referable to bladder and rectum.

b. Cessation of the menses.

c. Bluish discoloration of the vaginal wall.

d. Softening of the cervix.

e. Changes in size, consistency and position of uterus.

The existence of ectopic pregnancy is highly probable, when, in association with the above, palpation reveals an indefinitely outlined tender, boggy mass to one or both sides of uterus, in a patient who has or has had symptoms of acute anemia and attacks of acute abdominal pain,

especially if the abdominal tumor has increased in size with each attack of abdominal pain.

If, during an intermenstrual period with or without a suppression of the menses, a woman has an attack of severe abdominal pain followed by vomiting, collapse, slight uterine hemorrhage, think of tubal abortion. If after a few days or a few weeks, the same clinical picture recurs, suspect the existence of a bilateral tubal pregnancy.

The severe pain of tubal rupture is accompanied or followed by symptoms of abdominal hemorrhage and acute anemia, pallor, dizziness, nausea, collapse, weak thready pulse. A definite muscular rigidity is noted by several reporters.³⁴ In almost all cases associated with the above, vaginal hemorrhage^{70,19,54}, varying in amount, slight²⁵, or profuse,⁵⁶ and in duration, from 3 weeks,²⁰ to 6 weeks,⁶⁷ is said to have been present. These attacks of pain, vaginal hemorrhage and anemia may be repeated.^{14,71} Bi-manual vaginal examination usually detects an elastic, often globular tumor-mass, to one or other side of uterus, or a peri-uterine mass occupying the cul-de-sac of Douglas and the two lateral cul-de-sacs and in a few instances even extending into the iliac fossa. Previous to rupture or abortion, the fetal cyst may displace the uterus in various directions to the right,³⁹ to the left,³² forward.^{14,28,72}

The treatment of ectopic gestation previous to, at time of, or after tubal rupture or abortion is operative. As stated in some of our previous publications on this subject, we disregard completely the life of the ectopic fetus and concentrate our efforts to saving the maternal health and the maternal life. The ectopic fetus, in all its various forms and at all periods of its existence, is a menace to the maternal organism. Operation removes in a few minutes what it will require unaided nature, even in the most favorable cases, a long time to accomplish and thereby early secures the safety of the patient.

The operation for the relief of ectopic pregnancy, for the control of its complications and the cure of its sequelæ, may be an emergency operation, may be one giving us time for ample preparation of the patient. In a general way it can be said that an ectopic gestation is a malignant growth and the longer it is unmolested, the greater are the dangers to the mother.

In cases of tubal rupture and also in cases of tubal abortion associated with symptoms of abdominal hemorrhage, operative relief must be immediately instituted. A patient can bleed to death into the peritoneal cavity without a drop of blood appearing externally. Peritoneal flooding calls for immediate intervention. Operation is equally indicated previous to tubal abortion or tubal rupture but under these conditions if the patient be vigilantly watched, a delay of two or three days is not very significant.

In all operations for ectopic pregnancy, we discard the vaginal route. We prefer the abdominal route. Most conditions, practically all, that simulate unilateral or bilateral ectopic pregnancy, require for their cure an abdominal section: appendicitis,¹⁵ hydrosalpinx, pyosalpinx, ovarian cyst, sub-peritoneal uterine fibroid. If any of these conditions be mistakenly diagnosed, ectopic gestation and a laparotomy performed, no harm has been done. If they co-exist with a tubal gestation, laparotomy enables one to appropriately treat both conditions. We are justified in making our diagnoses and basing our management of cases upon presumptive evidence. A large mortality results from delayed diagnoses.

The most immediate danger of tubal abortion or tubal rupture is hemorrhage. Laparotomy permits an immediate and complete arrest of hemorrhage. Colpotomy permits an evacuation of blood clots but hemorrhage cannot be arrested by the evacuation of blood clots. If the blood accumulation has acted as a tampon, its mere evacuation may be followed by a recurrence of the hemorrhage. Laparotomy not only secures absolute hemostasis but enables one to eliminate the danger of post-operative or secondary hemorrhage.

Laparotomy permits a more complete removal of the ovular debris and extravasated blood. It is not necessary to remove all blood from the peritoneal cavity. Let there be no needless traumatizing. Furthermore, laparotomy allows inspection of the pelvic organs and enables one to decide at once whether or not the opposite tube should be removed.

Unilateral tubal pregnancy calls for removal of the pregnant tube. The operator must not be haunted by the thought of recurrence. Recurrence in the opposite tube is exceptional.

We are not justified in sterilizing a woman just because she has had a tubal gestation.

Remove the unaffected tube:

a. If there be existing in the patient some constitutional state contra-indicating pregnancy such as epilepsy, alcoholism, worst types of neurasthenia, syphilis, mental disease, imbecility, advanced tuberculosis, advanced cardiac, renal, or hepatic disease, bad types of primary anemia.

b. If there be existing in the patient some pelvic deformity preventing delivery through the maternal passages of a viable fetus.

e. If it be imbedded in adhesions, if it be malformed or the seat of a congenital anomaly or of inflammatory, neoplastic or other degenerative changes; hydrosalpinx, pyosalpinx, etc.

Do not remove the normal tube unless there be existing in the patient, a condition contra-indicating pregnancy. There are many cases on record where a normal pregnancy has occurred after the ablation of a Fallopian tube.

In unilateral tubal pregnancy and in bilateral tubal pregnancy there should be no needless removal of tissues or organs. Therefore, if the ovaries are normal or only slightly altered, their preservation will be of great benefit to the patient. In addition to removing pregnant tube, fetus and ovular debris, correct co-existing pathological states if the patient's condition permit. Many operators in addition to performing a bilateral salpingoophorectomy, supravaginal,¹⁹ or a total hysterectomy,⁴ broke up inflammatory adhesions, or removed the appendix vermiformis presenting acute or chronic inflammatory changes.^{73.35.74} Others removed a co-existing cystic ovary,²³ a cyst of parovarium.²⁸

In our tabulated cases there were removed 42 left and 47 right Fallopian tubes. In 15 cases it is stated that the left ovary was removed. The right ovary was removed 22 times. In a few other cases, portions of the ovary were removed. In 6 cases, the conditions were such that the operators were compelled to perform either a total or subtotal hysterectomy. In 15 instances, abdominal drainage was used; in three instances ^{72.25.22} vaginal drainage was used. It may be said that as a general rule that the use of drainage in these cases is inadvisable.

The mortality of bilateral tubal pregnancy,

skillfully operated on, is very low. It should be nil. In our collected cases, there were only three deaths; two from peritonitis and ileus,^{33, 44} and one from peritoneal hemorrhage.⁴²

In Oden's case, the patient developed post-operative ileus, the abdomen was reopened, adhesive bands loosened; three weeks later the symptoms of intestinal obstruction recurred; the patient was reoperated on and recovery ensued.

In one of Smith's cases, right tube adherent to ileum, had literally grown into it. There were two perforations into the gut; 30 cm. of intestines was removed, a lateral anastomosis was performed. Patient recovered.

BIBLIOGRAPHY

1. Kennedy, J. W.: *New York Med. Jour.*, XC, 61-64, 1909.
2. Marr, F. T.: *Ohio Med. Jour.*, V, 318-23, 1909.
3. Remy, S.: *Rev. Med. de l'est. Nancy*, XLII, 321-25, 1910.
4. Frère, F.: *Presse Med. Belge*, LXVI, 393, 1914.
5. Mattbieu: *Le Scalpel*, LXIV, 49, 1911.
6. Lambert: *Bull. Soc. d'obst. et Gynec. de Par.*, I, 892-8, 1912.
7. McDonald: *Jour.*, A. M. A., LX, 1766-69, 1913.
8. Hirsch, Max: *Frauenarzt*, Leipzig, XXVII, 338-50, 1912.
9. Cameron, S. J. M.: *Glasgow Med. Jour.*, LXXI, 34-39, 1909.
10. Johnson, Geo. W.: *Lancet*, London, II, 869, 1915.
11. Basham, D. W.: *Western Surg. & Gyn. Assn.*, p. 281, 1909.
12. McCalla, L. P.: *Surg., Gyn. & Obst.*, VIII, 248-54, 1909.
13. Labhardt, A.: *Beitrag Zür Geburts. u. Gynaek.*, XIV, 155-61, 1909.
14. Laurell, B.: *Mitt. a. d. gynaek. Klin.*, VII, 141-45, 1907-8.
15. Launay, P.: *Rev. de Chirurgie*, Paris, XLIII, 401-19, 1911.
16. Wilson, T. G.: *Australas. Med. Gaz.*, XXIX, 187-9, 1910.
17. Williams: *Text Book of Obstetrics*, 1911.
18. Coues, W. P.: *Boston Med. & Surg. Jour.*, CLXIV, 677-81, 1911.
19. Smith, R. R.: *Tr. Amer. Gynec.*, XXVI, 425-52, 1911.
20. Rosenstein, M.: *Monatschr. f. Geburts. u. Gynak.*, Berl., XXXII, 435-43, 1910.
21. Coffey, R. C.: *Western Surg. & Gyn. Assn.*, p. 281, 1909.
22. Vautrin: *Gynecologie*, Paris, XV, 435-48, 1911.
23. von Lingen, L.: *Zentralblatt für. Gynak.*, Leipzig, XXXVII, 901, 1913.
24. Frank, A.: *Berl., klin. Wchschr.*, XLVIII, 429, 1911.
25. Puppel, E.: *Monatschr. f. Geburts. u. Gynak.*, XXIX, 352-56, 1909.
26. Barkley, A. H.: *Kentucky Med. Jour.*, VII, 752, 1908-9.
27. Murphy, J. B.: *Surg., Clin.*, V, 505-19, 1916.
28. Rabinovitz, M.: *Amer. Jour. Obst.*, LXIV, 238-50, 1911.
29. McGuire, S.: *Old Dominion Jour. Med. & Surg.*, XVI, 14-18, 1913.
30. Stone: *Amer. Jour. Obst.*, LXIX, 165, 1914.
31. Andrews, A.: *Australas. Med. Gaz.*, Sydney, XXXIII, 232, 1913.
32. Dougal, D.: *Jour. Obst. & Gyn.*, Brit. Empire, XXV, 154-58, 1914.
33. Keyes, John M.: *New York Med. Jour.*, XLII, 252-7, 1910.
34. Oden, R. J. E.: *Jour. Mich. Med. Soc.*, XIV, 104-6, 1915.
35. Lenormant: *Paris Chirurg.*, II, 26-34, 1910.
36. Gerschun, M.: *Zentralbl. f. Gynak.*, XXXIV, 1642-45, 1910.
37. Siefert, G.: *Zentralbl. f. Gynak.*, XXXIV, 1113-15, 1910.
38. Terrington, H. M.: *Canadian Med. Assn. Jour.*, VI, 232, 1916.
39. Butler-Smythe: *Jour. Obst. & Gynak.*, Brit. Emp., XXV, 74-79, 1914.
40. Wesenberg, W.: *Zentralbl. f. Gynak.*, XXXV, 1716, 1916.
41. Craig, G.: *Australas. Med. Gaz.*, XXIX, 352-57, 1910.
42. Anderodias: *Jour. de Med.*, Bordeaux, XLII, 610, 1913.
43. Collins, E.: *Proc. Royal Soc. Med.*, Lond., V, Obst. & Gyn. Sect. 374, 1911-12.
44. Findley, P.: *Trans. Amer. Gyn. Soc.*, XXXV, 26-31, 1910.
45. Lothrop, E. P.: *New York Med. Jour.*, CIV, 735-39, 1916.
46. Whitehouse, B.: *Jour. Obst. & Gynec.*, Brit. Emp., XXIV, 306, 1913.
47. Le Lorier, M. V.: *Bull. Soc. d'obst. et de Gynec. de Paris*, II, 819, 1913.
48. Hamilton, J. W.: *Lanset, Clinic*, Cincinnati, CI, 609-13, 1909.
49. Gordon, Geo. A.: *Lanset*, Lond., II, 101, 1910.
50. Shoemaker, G. E.: *Penno. Med. Jour.*, XIII, 622-28, 1909-10.
51. Sawkins, F. J. T.: *Australas. Med. Gaz.*, XXVIII, 487, 1909.
52. Davies-Colley: *British Med. Jour.*, I, 480-83, 1912.
53. Plahl, F.: *Gynaek., Rundschau*, VIII, 645-7, 1914.
54. Hadden, D.: *Calif. State Jour. Med.*, XI, 60, 1913.
55. Pellissier, M.: *Echo Med.*, du Nord, Lillie, XVIII, 43-45, 1914.
56. Bruce, H. S.: *Atlanta Jour. Rec. Med.*, XII, 250-57, 1909.
57. Lancaster, L. B.: *Australas. Med. Gaz.*, XXXII, 34, 1912.
58. Russell, L. E.: *Eclect. Med. Jour.*, Cinn., LXIX, 463-65, 1909.
59. Kastanajeff, G. M.: *Int. Abs. Surg.*, XVIII, 166, 1914.
60. Peterson, R.: *Physician & Surg.*, Det., XXXIV, 180-82, 1912.
61. Braham, N.: *Brit. Med. Jour.*, Lond., II, 239, 1914.
62. Milligan, E. T.: *Jour. A. M. A.*, LVIII, 114, 1912.
63. Oliver, J.: *Brit. Med. Jour.*, II, 1653, 1911.
64. Wenzel: *Zentralbl. f. Gynak.*, XXXV, 588, 1911.
65. Proust: *Bull. et Mem. Soc. Anat. de Paris*, LXXXV, 118, 1910.
66. Süssman, F.: *Munch. Med. Wchschr.*, LVII, 1341-43, 1910.
67. Kutz, A.: *Deutsche Med. Wchschr.*, XXXVI, 1349, 1910.
68. Ford, M. J.: *West. Med. Rev.*, Omaha, XXVIII, 123-134, 1913.
69. Hunner, G. L.: *Amer. Jour. Obst.*, LXII, 409-20, 1910.
70. Ballard, C.: *Post-Graduate*, XXIII, 929-32, 1908.
71. Unterberger, F.: *Monatschr. f. Geburts. u. Gynak.*, XXXVIII, 247-51, 1913.
72. Davidsobn, G.: *Munch. Med. Wchschr.*, LIX, 145-47, 1912.
73. Barthelemy: *Bull. Soc. d. Obst. et de Gynec. de Paris*, I, 1028-30, 1912.
74. Crandon: *Western Surg. & Gyn. Ass'n*, p. 281, 1909.

EPIDEMIOLOGY OF POLIOMYELITIS.*

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While a number of our present-day diseases, particularly those of epidemic character, can be clearly traced in historical records far back into the Middle Ages or Ancient Times, it must strike the student of the history of infantile paralysis, that in the early medical literature there does not exist any notice of it, despite the striking symptoms and permanent effects of the affection.

The first mention of the disease seems to have been made by Michael Underwood of London in 1784 in his chapter on "The debility of the lower extremities" in his book on Diseases of Children, which was then very popular. Since that time here and there a few small reports appeared, but failed to arouse the attention of the profession. According to Shaw, 1822, the disease was then known in India, Egypt and in other countries outside of Europe.

The first elaborate description and clinical delineation in a monograph on this disease was given by Jacob Heine, a physician and orthopedist at Cannstadt in Wuertemberg in 1840, under the title: Beobachtungen ueber Laehmungszustande der unteren Extremitaeten und deren Behandlung. (Observations on paralytic states of the lower extremities and their treatment.) In his publication, a remarkable treatise of 78

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pages, that in its second edition twenty years later had 204 pages, he hints at the epidemic aspect of the disease and recognizes its spinal nature.

However, only as late as in the eighties do reports become more numerous. At this period the clinical study and research brought little additional knowledge, until Medin's important and epochal observations, made during the epidemic at Stockholm in 1887 (44 cases) were placed before the medical profession. It did not escape the close observation of this meritorious Swedish physician, that the disease may present various clinical pictures, and he learned to distinguish from the already known spinal type also a bulbar, polyneuritic, ataxic and encephalitic type.

The clinical significance of Medin's work, for a while forgotten, was brought forward again into a new light through the experiences of the great epidemics in recent times.

The first of these more serious epidemics occurred in 1905 in Sweden, with 1,031 cases, when Wickman was lead to discern also the meningeal, the abortive, non-paralytic type and the type of Landry's paralysis. Not enough credit can be given to these scientific workers.

Since that time the disease has been reported in more or less devastating epidemics throughout Europe, in this country, the West Indies, Australia and South America. A very complete list of epidemics of all countries, with informations concerning them, is to be found in the report of the epidemic of 1916 in New York City, published by the Department of Health of the City of New York.

In North America the first small epidemic was mentioned by G. Colmer, occurring in 1841 in West Feliciana, La. He saw one case, hearing of 8 or 10 others and thinking them due to teething, as all earlier writers had with the exception of Heine. The *first extensive* epidemic in this country was reported by McPhail and Caverly, occurring in Vermont in 1894 with 120 cases and a 13 per cent. mortality. In 1907 epidemics made their appearance in New York City with about 2,500 cases and a 5 per cent. death rate, in Massachusetts with 243 cases and in some other smaller foci. In the epidemic of 1909 the number of cases in America amounted to a total of 14,590 with 20 per cent. mortality; and in 1916

(Reports of the United States Public Health Service, June 1, 1917) it reached the sum of 27,595 with New York state alone reporting 13,223 cases with a mortality of 25.19 per cent., the highest number of patients on record. The New York Board of Health in a conservative estimate places the probable number of cases at 30,000.

The figures of the Chicago epidemic of 1916, according to the reports of the Department of Health, were: 285 cases with 49 deaths; the highest incidence in August and September, namely, 99 and 85 cases respectively.

The number of the cases of this year's epidemic (1917) until end of November, amounted to 542 with the maximum incidence in September (239) and October (186); the greatest weekly incidence having been between September 22 and 29, with 70 new cases reported and 27 deaths.

As to the occurrence of more than one case in a family, the analysis of 700 cases of the New York epidemic (1916) (*Weekly Bulletin*, Department of Health, New York City, Sept, 1916, page 297) gave the following figures:

1 case in	6,521 families
2 cases in	205 families
3 cases in	20 families
4 cases in	1 family
5 cases in	1 family

Due to a comparatively low susceptibility to the virus of poliomyelitis, as a rule, only a minor portion of the total population becomes affected. Thus in Hassen-Nassau not more than 0.005 per cent. of the total population and 1/70 per cent. of the number of children manifested paralysis, while, it is true, in Traestena, a town in Sweden of 500 inhabitants, almost 10 per cent. of the people were attacked. The figures of New York City in 1916 were 1.6 per thousand, in the up-state cities 0.6 and in the rural districts 2.4 per thousand of the population.

As the genus epidemicus, or the character of other diseases shows certain variations, a striking variability in the virulence of poliomyelitis is evidenced in the marked oscillations of the mortality in the various epidemics at various places and times. It fluctuates between 5 and 40 per cent. The fatality rate in New York City in 1916 was 27.2 per cent., but somewhat less in the rural districts of the state. The mortality figure of the present epidemic in Chicago

until end of October is somewhat over 33 per cent.

It is also an assured fact that the aspect of the disease in some of its manifestations may, from causes unknown, vary according to the epidemic in different places. For instance, in Westphalia during the great epidemic in Germany, 1909, $\frac{2}{3}$ of the number of patients showed initial diarrhea, while this was only exceptionally so in Hessen-Nassau, although having been infected from its neighboring province. In Silesia obstipation was the rule and in Hessen-Nassau over 50 per cent. of the patients showed a marked catarrhal initial involvement of the respiratory tract. (Mueller.)

According to our epidemiologic conception great importance in the spread of the disease must be accorded to the relative frequency of the abortive, non-paralytic cases. The statistics of Wickman concerning the Swedish epidemic of 1905 comprise 868 paralytic and 157 abortive cases, the latter figure being declared by him as far too low, since cases of this type were considered only in limited districts. In another epidemic the abortive cases were 56 per cent., according to the same author, who makes the statement that even higher figures may occur. In the experience of some authors the percentage fluctuated between 20 and 35 per cent.; many who have studied the disease, among them also Ruhräh and Mayer, emphasize that at the present time most of the non-paralytic cases escape recognition, and Leggard, finding among 952 cases 358 abortive ones, makes the claim that the abortive cases may, without exaggeration, be estimated as half of the total number of poliomyelitis patients. This should be kept in mind when considering statistical data as to the frequency of the disease.

Where the ways of traffic and communication have developed to a degree of uttermost complexity, as in large cities and big centers of industry, with their thousandfold uncontrollable possibilities of the transmission of the disease, a close analysis is rendered well-nigh impossible and the problem as to the methods and means of spreading the malady therefore becomes difficult to solve.

On the other hand, epidemics in small isolated country places or villages with only little outside communication offer excellent conditions for the study. For instance, the investigations and di-

rect observations made by Wickman during the epidemic in Traestena with its 500 inhabitants and in other villages of Sweden (1905) demonstrate, beyond doubt, that the propagation of the infection from village to village, from house to house or from the school, and the occurrence of the first cases in new foci, was due to contact, confirming the claim, made first by Struempell as early as 1884 of the infectious nature of the disease. In nearly every instance of poliomyelitis Wickman demonstrated a direct or indirect contact between individual cases of the disease; also Mueller during the epidemic in Hessen-Nassau found that the spread of the disease took place from person to person, particularly through those who suffered from a very mild type, the abortive form, or were apparently healthy, but were associated with patients. The propagation from village to village could be traced to healthy persons, who had traveled from infected regions into heretofore uninfected places, or to healthy persons, who had visited infected places and upon their return had brought the virus into their home town. The spread from house to house was due to family visits in a convincing number of cases. Also the State Department of New York obtained rather conclusive evidence that contact is the direct factor in the spread of the infection; many of the local outbreaks in the Catskill counties and up the Hudson river were clearly traceable to imported cases brought in from New York City. Of 756 up-state cases tabulated 20.4 per cent. were found to have been associated or in contact with other cases of poliomyelitis. (M. Nicoll.)

The spread of the disease generally shows a connection with the main arteries of traffic, the simple highways, railroads and ships; in short, it follows the traveling public that establishes the necessary contracts.

Through inoculation experiments on monkeys it was demonstrated that the virus is present not only in the central nervous system, but also—and this is of great epidemiologic importance—in the mucous membranes of the naso-pharyngeal cavity and their secretions, in the tonsils and the washing from the rectum of human patients and convalescents and even healthy persons associated intimately with acute cases of the disease. In monkeys even after intra-cerebral or intra-abdominal inoculation of the virus

the latter could be detected in the naso-pharyngeal secretions, and the saliva, demonstrating the avenues of escape of the virus from the body. This fact may be regarded as applicable to the human.

It is generally accepted that the virus locates first in the mucous membranes of the naso-pharyngeal cavity as the main avenue of entrance or perhaps also in the deeper respiratory tract, and thence penetrates by way of the lymphatics into the nervous system. According to the view of some authors the intestines may sometimes be the port of entrance of the virus, as experiments under extraordinary conditions point to this possible route in monkeys.

Though the exact method of the transmission of the infection under natural conditions is not known with certainty, the above observations render it highly probable, that the disease is propagated through these secretions by way of Flügge's droplet-infection in coughing, sneezing, spitting, crying or by direct contact as in kissing; also by inanimate objects or persons that are contaminated with the secretions. Especially the fingers of mothers or attendants who wipe away the secretions from the mouth and nose of the child, may readily after such contamination infect other persons or their food. Since the affection shows no relation to the disposal of sewage, as does typhoid, it is improbable that the intestinal discharges, though they may contain the swallowed virus, should ordinarily transmit the disease. The common house fly is under strong suspicion of being able to be a passive carrier of the virus, since Flexner proved the latter even 48 hours after contamination. This insect may readily become grossly infected by feeding on the secretion that collect about nose and mouth, and deposit the virus on the face of a healthy child or on food or utensils.

Richardson incriminates rats as possible agents of propagation; however, no experiments have been made to prove or disprove such theory. It is the *contact theory*, with Flexner as its chief exponent in this country, that has been generally made the working basis for the various Departments of Health in their prophylactic measures.

Deep obscurity prevails as to the cause of a change of character from sporadic to epidemic of a disease that has prevailed among our population for a long time. The same mystery

shrouds also other infectious diseases that from time to time have assumed the character of continental, even world's epidemics as, for instance, the influenza.

Only two predisposing factors are definitely known; the season and the age of childhood. The disease has a decided preference for the dry and warm months of the year, that is the late summer and early autumn, although a few winter epidemics have been observed as, for instance, in Sweden with their maximal rates in November, December and February or in April and May, and that occurring in Elkins, W. Va., 1916-1917. It has not been decided whether the predisposition of early life is due to the particular anatomical and biological conditions of the spinal cord at this age or to the conditions of the port of entrance, the latter possibility perhaps being correlated to the great susceptibility of the lymphatic apparatus of the naso-pharyngeal cavity in this age to infections of all kind. However, one should not overlook the fact that poliomyelitis occurs at a time when other infections of the upper respiratory tract are at their low mark.

The analysis of the first 7,500 cases in New York City demonstrated that 80 per cent. of the children were under 5 years of age, more than 95 per cent. under 10-year-old and more than 98 per cent. under 16-years-old; the corresponding figures in the up-state cities and rural sections were somewhat different, as the percentage of the later ages was higher than the foregoing figures. Adults are not exempt, as the various statistics demonstrate; patients over 40 years of age have been observed repeatedly. About 5 per cent. of the Massachusetts cases in an epidemic were over 20 years of age; ten cases occurred between the ages of 30 and 72 years.

The ages of the cases observed in Chicago from July 1 to September 12, 1917, were as follows:

Under 1 year.....	13 cases
1- 5 years.....	103 cases
5-10 years.....	20 cases
10-15 years.....	2 cases
15-20 years.....	2 cases
20-30 years.....	2 cases
Over 30 years.....	1 case
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Total	143 cases

REFERENCES.

- Flexner, S.: Jour. A. M. A., 1916, LXVII, 279.
 Mueller, Ed.: Handbuch der Inneren Medizin, 1911, I, 799.
 Nicoll, M.: Amer. Jour. Dis. of Children, 1917, Aug., p. 69.
 Richardson: Boston Med. and Surg. Jour., 1916, p. 397.
 Ruhrah, J., and Mayer, E. E.: Poliomyelitis. Philadelphia and New York, 1917.
 Wickman, Ivar: Lewandowsky's Handbuch der Neurologie, II, 807.

THE EARLY SYMPTOMS AND DIAGNOSIS OF POLIOMYELITIS.

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The increasing incidence of poliomyelitis during the past few years has resulted in such intensive investigation of the clinical aspects of the disease as to place the diagnosis on a basis so definite that today it is quite unnecessary in the majority of cases, to await the appearance of paralysis, especially during the occurrence of epidemics, while the identification of even sporadic cases is possible with a fair degree of certainty. Because of the very favorable reports concerning the value of serum in the treatment of the disease, its early recognition has become more than a matter of pride in one's diagnostic ability; it has become a question, possibly, of whether paralysis shall or shall not be permitted to complicate the attack.

In order to properly appreciate the clinical picture of poliomyelitis it is of advantage to have clearly in mind the fact that the disease is an acute specific infection involving primarily the bone marrow, intestinal tract, liver and spleen, and in which paralysis is only a complication, believed to be of unfortunately frequent occurrence, but merely incidental nevertheless, and not a necessary part of the disease. Possibly the first need today, in order to stimulate the early diagnosis of poliomyelitis through a universal recognition of the condition as a non-paralytic affection, is the origination and general adoption of an appellation for the disease which will indicate primarily its systemic character and only secondarily its paralytic complications, instead of focussing all attention upon a manifestation which from the standpoint of diagnosis and of control, is of no more importance than invasion of the spleen or bone marrow. The terminology in common use today is extremely misleading, the terms poliomyelitis, infantile paralysis, preparalytic and abortive all being objectionable as not indicative of conditions as they actually exist.

In addition to the recognition of the fact that the disease is primarily a general infection and pending the adoption of a more satisfactory terminology, it is essential, in view of the protean manifestations of the affection, to possess a knowledge of the various forms of the disease, as an aid to a realization of its manifold clinical aspects. As the older classifications were rather unwieldy and embraced features both clinical and anatomical, they may be replaced advantageously by a simpler arrangement of clinical forms of much greater practical value, a classification first proposed by Peabody, Draper and Dochez.¹ This latter grouping includes two forms only, the paralytic and non-paralytic, and is based on the ever increasing appreciation of the systemic character of the infection.

As to the proportion of cases without paralysis to those with, no one can do more than estimate, but observers place the incidence of non-paralytic poliomyelitis as high as 50 per cent, some even as high as 70 to 80 per cent. Beyond a doubt the number without paralysis is large and the difficulty in recognizing them indicates that unless new methods of diagnosis or prophylaxis are evolved, the prospects of controlling the spread of the disease are extremely remote.

Of the cases without paralysis there are two varieties, those with only the symptoms of an acute infection and those with symptoms referable to the nervous system but without paralysis. Cases of this latter group are commonly referred to as abortive, a term which should be discarded because it tends to belittle the importance of this class of cases in the spread of the disease and because its use infers a degree of surprise that there could be a case without paralysis.

As a complication there are two principle forms of paralysis, the bulbo-spinal and the cerebral. In the former the virus attacks the lower motor neurone, in the latter the upper. To any paralytic case the term preparalytic is applied before the appearance of paralysis.

To recapitulate, there are seen non-paralytic, preparalytic and paralytic cases. The non-paralytic are divided into those with and those without involvement of the central nervous system, the paralytic into the bulbo-spinal and the cerebral.

The only reason that a distinction is made between the cases of the non-paralytic group is be-

cause the so-called abortive poliomyelitis is amenable to diagnosis, while those without invasion of the brain or cord ordinarily are not. Examples of this latter class are not uncommon during an epidemic and show only the most general symptoms, such as fever, headache, anorexia, constipation or diarrhea, and perhaps vomiting, as evidence of the activity of the poliomyelitic virus within the host, a symptom-complex which usually does not permit of a diagnosis, though when recognizable cases occur in the same family the true nature of these indeterminates is more likely to be properly appreciated. The non-paralytic attack may be so mild as to endure only one day, though on the other hand it may be severe, but if the neurotropic properties of the invader are not sufficient to overcome the defense of the choroid plexus with resulting invasion of the nervous system, characteristic symptoms do not appear.

The cases in which central nervous system invasion has occurred but in which the process has stopped short of paralysis, exhibit largely the same findings as do the paralytic cases in the pre-paralyzed stage. Evidently these so-called abortive cases are borderline affairs, lying midway between the purely systemic form of the disease on the one hand and those complicated by paralysis on the other. Many are actually involved by the latter complication, the paralysis being only transient or so slight as to be difficult of demonstration. The exact extent and localization of the lesion in these uncomplicated cases are largely a matter of speculation, in humans at least, as practically the only opportunity for post-mortem examination occurs in those dead of a respiratory paralysis. A careful study of the symptoms of the uncomplicated and pre-paralyzed cases will undoubtedly permit of frequent early diagnosis and it is to these symptoms and to the early course of the disease that those who would become proficient in its timely recognition should direct their attention.

The *course* of the disease runs surprisingly true to form. The onset is usually somewhat abrupt, but often not severe, and is frequently followed within a day or two by a remission. This remission is permanent in a certain proportion, the individual going on to recovery; the form without involvement of the nervous system. In others the remission is followed by

evidence of invasion of the brain and cord, in some the attack subsiding at this point, the so-called abortive cases, in others becoming complicated by paralysis. In still another group the remission is not in evidence, the general symptoms remaining at their height until after invasion of the meninges. The length of the systemic phase of the disease before nervous involvement occurs, varies from hours to days, most frequently being two to three days in length. In every instance some constitutional disturbance precedes the paralysis, though it is sometimes so mild as to be overlooked.

During the first phase of the disease, before remission occurs, a diagnosis is not possible, consequently with the occurrence of such symptoms in a young child, especially in the late summer, poliomyelitis in the first stage must be considered as one of the diagnostic possibilities. Attention should then focus on the development of signs of meningeal invasion, the occurrence of which calls for immediate lumbar puncture.

The five most important signs or symptoms of this early stage of meningeal invasion are neck stiffness, paralysis of the anterior neck muscles, unwonted drowsiness, hyperesthesia and an ataxic gait. To these may be added the muscular tremor or twitching not infrequently seen. This group constitutes the cardinal signs of early poliomyelitis.

The *anterior spinal flexion sign* is almost diagnostic. This is a spastic state of the posterior neck muscles in the nature of a protective contraction, probably sub-conscious in production, which appears on attempting to flex the head or chest, but which is usually not in evidence when the child is in a comfortable position. Probably every case of poliomyelitis in which invasion of the nervous system occurs would show this symptom if seen early enough. It is one of the last of the acute symptoms to disappear, tending to persist several days, even in the mild cases.

Weakness of the neck muscles is also an exceptionally constant finding. If the trunk is lifted slowly by the arms the head falls back, sometimes to the spine, even though the child is apparently making every effort to lift it. This symptom is of very great value, not enough stress having been laid upon it heretofore. Combined with spasticity of the posterior neck muscles, it is almost pathognomonic.

The *mental condition* in poliomyelitis is notable, and of diagnostic help, an extreme drowsiness commonly being present, out of proportion to the amount of temperature, yet with an unclouded sensorium which permits the child to be perfectly orientated when aroused, as he usually easily is. With the drowsiness there is an evident desire to be left alone, especially in the common spinal type of the disease. In the bulbar cases, however, a different picture may be seen, either the mentality is extraordinarily acute or else the child is aroused with great difficulty from his stupor. Sometimes delirium is seen.

Hyperesthesia may be of three varieties, and in some form is quite constant. Either there is spontaneous pain in one or more of several situations, the head, neck, abdomen, hamstring muscles or feet; or pain is caused by handling, especially by endeavoring to flex the head on the chest, or certain muscle bellies are tender to the touch; or lastly, the skin itself may be hypersensitive. The pain may vary from that of the severest sort to that of the most trifling character and may last from days to weeks.

The *gait* is noticeably ataxic in the uncomplicated and paralyzied cases and there is usually very evident disinclination to attempt to walk. This symptom, together with lack of co-ordination and consequent inability to hold objects, as well as the hypersensitiveness of the skin, is due to early involvement of the posterior horns.

Finally, a *muscular twitching* or *tremor*, often confined to one extremity but sometimes involving the whole body, to which Colliver³ first called attention, is not infrequently seen.

Of the *general symptoms* possibly the first one to be noticed is a change in disposition and a disinclination to play. A rise of temperature is seen in all cases, a rise which may not be high, and which has no characteristic curve, but which has occasionally been noted to reach 107 degrees. In a recently reported series⁴ constipation was seen in 87 per cent of cases; anorexia in 77 per cent; irritability, often pronounced, in 66 per cent; restlessness in 3 per cent; and urinary retention in 16 per cent. Chills are rare or absent; the pulse is usually fast; the respirations are not out of proportion to the temperature, unless in the bulbar cases; and convulsions occurred only

twice in 100 consecutive cases. Sweating is a more prominent symptom than in most febrile conditions of childhood and not infrequently is excessive, while occasionally other vasomotor disturbances occur, such as unilateral flushing of one ear or cheek. Sore throat accompanies the onset in some instances and in others diarrhea with green stools and mucus may be the predominant feature.

The reflexes during the early days of the disease are normal or after meningeal invasion occurs, somewhat increased. Before the occurrence of paralysis the reflexes of the extremity to become involved usually disappear. Not infrequently loss or only diminution of one or more reflexes is the sole evidence of damage to the motor pathways.

The continued course of the disease, after the acme is reached, is usually that of steady improvement. In a few days or a week or rarely later, the acute symptoms begin to decline, the hyperesthesia becomes less prominent, though it may be one of the last to disappear, the excessive irritability subsides, the drowsiness is replaced by a more nearly normal manner of sleeping and the child again takes an interest in his surroundings. Recovery is usually complete, providing the one complication so commonly seen does not occur.

Not all cases show the familiar picture just described, the most common variation being a predominance of symptoms due to excessive meningeal irritation. In these instances the pain and tenderness may be extreme, retraction of the head occurs, Kernig's sign may be present, rigidity may even mask paralysis and the case closely simulates an epidemic meningitis. Rapidly progressive bulbar cases with hyperacusis or stupor and early respiratory involvement also offer difficulties in diagnosis, while the upper neurone type has characteristics of its own. The very mild infections also give trouble, any one or more of the symptoms delineated being absent. Under these circumstances aid must be sought in an examination of the spinal fluid.

At any time the need of lumbar puncture becomes evident in the presence of even slight rigidity of the neck of acute onset, while during an epidemic even less is enough to warrant the procedure, temperature and hyperesthesia alone being sufficient indication of the need of further

investigation.⁵ Though a specific diagnostic test of the spinal fluid is lacking, yet its examination may be of great aid, as at least 90 per cent of poliomyelitis fluids deviate from the normal. A clear or somewhat opalescent fluid flowing out under slightly increased pressure, showing an increased number of cells, chiefly lymphocytes, and frequently an inconsiderable increase in protein content, are the most constant changes. A moderate cell count is the rule, 78 per cent of 127 cases recently reported by the writer⁴ having a count under 75 cells per cubic millimeter. Such findings are of value both positively and negatively, in ruling out other conditions associated with signs of meningeal irritation, but at the same time pointing to the presence of definite pathology in the cerebro-spinal axis. If meningeal invasion does not occur, the fluid remains unchanged. One may conclude from this that while a normal fluid almost surely excludes poliomyelitis, it does not do so absolutely. Spinal puncture, however, offers the most valuable single procedure available in the early diagnosis, but inasmuch as nothing its examination reveals can be considered specific, a clear knowledge of the early clinical manifestations of the disease is essential to its recognition.⁶ Care must be taken to obtain a specimen free from blood, as the presence of the latter renders the fluid valueless for chemical and cytological examination.

Continued observation of the non-paralytic cases does not often assist greatly in the diagnosis, as the improvement shortly leaves nothing of a positive nature upon which to base an opinion. This should emphasize the value of an early lumbar puncture. The improvement is a point of confirmatory worth in differentiation, however, as several conditions which may be confounded with poliomyelitis do not show such amelioration. In a proportion of instances diagnosis before paralysis appears is impossible, the onset of the latter occurring too early in the disease or only after the most equivocal or unrecognizable preceding symptoms.

Where paralysis has occurred, the diagnostic difficulties are lessened in the majority of cases. The best known, the most common and the most easily recognized paralysis is that resulting from bulbo-spinal attack, probably 98 per cent of all cases with paralysis being of that variety, though

the proportion varies in different epidemics. The moderately severe palsies are the easiest of diagnosis, the muscular disability being quite apparent and the history of the preceding acute infectious symptoms characteristic.

Mild, and especially mild sporadic cases, however, are often overlooked because of the difficulty of appreciating that exceedingly slight paralysis, sometimes only an interference with the knee-jerks may be the sole remaining evidence of the disease, and also because demonstration of the paralysis, especially in young children, is not always easy. No case of suddenly developing muscle weakness may be disregarded, no matter how mild, and such instances must be looked upon as potentially poliomyelitis until they are proved to be something else. Any well defined local palsy in a child who has undergone an indeterminate illness should hint of infantile paralysis, in fact a mere lessening of muscle power, of ability to walk, or of the reflexes, should make one suspicious of the disease, more particularly if occurring after an acute illness with temperature, and especially in the summer or fall.⁷

The state of the reflexes is most important in the mild cases, diminution of both knee-jerks or of one while the other remains intact, offering evidence of confirmatory value. The presence of reflexes in the affected limb, however, does not vitiate a positive diagnosis, nor is ability to walk incompatible with the paralytic form of the disease, even when the lower limbs are involved.

Cases showing implication of the bulb alone, as are occasionally seen, are difficult of diagnosis, especially when only the face, one of the recti, or the pharyngeal muscles are compromised. The tendency is strong to find some cause other than poliomyelitis for the palsy. In these cases there is always a history of a preceding febrile disturbance pointing to an acute infection, rigidity of the neck is usually demonstrable, and interference with the knee-jerks frequently occurs. Examination of the spinal fluid under these circumstances is almost sure to yield confirmatory evidence if the trouble is poliomyelitis.

A group of cases offering unusual difficulties in diagnosis are those with a rapidly progressive course. These all have temperature which is likely to be high, 103 degrees or more. After

a short illness, with perhaps a slight remission, bulbo-pontine paralysis appears, or a paralysis of an ascending or descending type. Some of these cases are so rapidly progressive that death occurs very early, always from respiratory involvement. Others show interference with speech or with swallowing or with the movements of the facial muscles, in some instances both sides of the face being involved. Synchronously or later, the respiratory apparatus becomes implicated. These bulbar cases often show an hyperacusis which is notable and quite different from the drowsy appearance and wilted expression of the spinal cases.

If not seen until moribund, or if an opinion is desired even after death, the clinical diagnosis must rest upon the history of an acute infection with temperature and hyperesthesia, the development of difficulty in talking or swallowing and later in breathing and often with a clear mentality almost until the end. In those instances in which respiratory paralysis is the marked feature of the case, the respirations are usually increased somewhat in rate and may be dyspneic, while occasionally the breathing may be very rapid and superficial. With involvement of the accessory muscles of respiration the upper chest is peculiarly immobile and compression of the abdomen, thus limiting the excursions of the diaphragm, is followed by an increase in the dyspnea and even by cyanosis. Cough, if present, often lacks the usual expulsive force, either as a result of an absence of power due to respiratory paralysis or to paralysis of the vocal cords.

A diagnosis of pneumonia or of meningitis is often entertained in these pontine cases. The presence of paralysis of the face or of an extremity, because of their comparatively easy recognition, are of the utmost help in diagnosis, while spinal puncture may be of assistance, together with a physical examination to rule out pneumonia, bronchial asthma or cardiac affections.

The cerebral type is one of the uncommon forms of poliomyelitis and is particularly difficult of diagnosis because of our inability to differentiate it from encephalitis due to other causes. Clinically these cases are characterized by convulsions, tremors, rigidity of the neck, spastic paralysis and increased reflexes. An acute febrile affection with the characteristics

mentioned may be diagnosed safely as an encephalitis, providing meningitis may be excluded, but only in times of an epidemic may the condition be regarded as due to the same cause as the more familiar spinal paralysis, unless there occur mixed forms of paralysis, spastic and flaccid varieties, in the same child, or unless evidence of bulbar involvement makes its appearance, under which circumstances a positive diagnosis is more likely to receive consideration.

In conclusion, one wishes to emphasize the fact that while heretofore it has been regarded as permissible, even necessary, to await the appearance of paralysis before committing oneself to the diagnosis of infantile paralysis, today such a course is not justifiable, else the possible benefits to be derived from serum treatment cannot be fully realized. Only when the latter can be administered before encroachment of the brain and cord occurs, may paralysis be prevented. Thus an endeavor must be made to arrive at a diagnosis at the earliest possible moment in the hope that timely recognition will permit the use of such curative measures as will rob the disease of its present all-too-frequent disabling and often fatal effects.⁸

BIBLIOGRAPHY.

1. Peabody, Draper & Dochez: Monograph, Rockefeller Inst. Med. Research, No. 4, 1912.
2. Agar: Arch. Diag., 1917, 10, 180.
3. Colliver: J. Am. M. Assn., 1913, 60, 813.
4. Armstrong: Arch. Pediat., 1917, 34, 713.
5. Neal & Dubois: Am. J. Med. Sc., 1916, 152, 313.
6. Kolmer: Arch. Pediat., 1917, 34, 413.
7. Gordon: N. Y. Med. J., 1916, 104, 583.
8. Draper: Acute Poliomyelitis, P. Blakiston's Son & Co., Phila., 149 p., 1917.

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PROGNOSIS OF INFANTILE PARALYSIS.*

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Hippocrates proclaimed the fact that he is the best physician who knows beforehand what is going to happen. The prediction of the succession of symptoms is very much appreciated by the laity. If we can foresee dangers and predict fatal and favorable outcomes, the public does not blame us. Trousseau writes that "People forgive us more easily for allowing our patients to die than for having made a mistake as to the issue of the illness."

*Read before the Irving Park Branch of Chicago Medical Society, Nov. 4, 1917.

Poliomyelitis has shaken the family admiration of more than one of us. It is a disease in which before paralysis develops we will have often assured the parents that their child just has a little digestive upset, tonsillitis, a cold, la grippe, or possibly something more serious—typhoid, rheumatism, neuritis, appendicitis, dysentery, pneumonia. Then comes on paralysis, the clouds fade away as far as diagnosis goes, but the memories of the parents remain and the conviction of our superior intelligence is blasted.

We need to be very guarded in our words when called to a child in summer and autumn seasons who presents meningeal irritation. Headache, stiffening of the neck, falling back of the head when raised up, pain on flexion of the back, peculiar gait, tenderness, pain, twitching, perspiration, drowsiness, hypersensitiveness, irritability, with possibly a Kernig or Brudzinski, with some increase or decrease of the reflexes are cardinal features.

If these present themselves be very guarded until you know the results of a lumbar puncture, and if it is negative you may still be in doubt. The diagnosis being made before paralysis, the first questions are going to be: Will my child be paralyzed; will he live through, and do you think there will be much paralysis; can you not prevent it?

We may generalize and say a large percentage of cases do not become paralyzed, but in a particular instance we can't absolutely say. The severity of symptoms of onset bear no relation to paralysis. Of course, as to his outcome you can't hint because you don't know where the lightning will strike. As to the prevention of the paralysis the immune serum, the serum of Nuzum and Willys and of Rosenow give us some hope. They report encouragingly. We will do all we can to prevent it. Early and frequent convulsions may point to encephalitic involvement, but not always.

The paralysis developed, the prime question is as to life. Here we have to be guarded again. We know the mortality rates vary from 6 or 7 per cent. to 43 per cent., depending upon years, localities and various conditions. Last year our hospital mortality was around 8 per cent., while this year it is nearer 27 per cent. It is said children have a better chance for life than adults. In Wickman's cases the mortality was 11.9 per cent. under eleven years and 27.6 per cent. be-

tween twelve and thirty-two years. I have had six cases over eighteen years old and two died. This season in the hospital we had three men over twenty-one years and all died; three women over twenty-one years have all lived.

As to the individual case there is no royal road to prognosis. We can think that certain ones will recover and we can tell more correctly the cases we think are going to die, as death is usually due to respiratory involvement. I know of no disease where death seems to depend so much on one factor—that of respiration—as does poliomyelitis. One difficulty comes here in telling which cases are going to develop respiratory paralysis; whether paralysis will extend after it has appeared or not. Sometimes it extends for six or seven days and I have seen respiratory paralysis develop after ten or eleven days. However, in the great majority of cases the paralysis reached its maximum early. When the intercostal and diaphragm are both involved death almost always ensues. When the diaphragm alone is paralyzed, death may not occur, but it usually does. When the intercostal and accessory muscles of respiration are involved and not the diaphragm, the outlook is a little better, but not in any way hopeful. Every now and then we see respiratory cases recover, but we sort of brag about them when they do. This season our hospital has had over one hundred respiratory cases and a bare ten are yet alive. Death may ensue very quickly. Some cases are sick less than twenty-four hours. In the fatal cases of respiratory involvement the hours of life are usually few after the muscles of respiration are involved, usually less than seventy-two. Most of these cases are conscious to the last moment and life may be prolonged by artificial means. These cases sometimes exhibit a pulmonary edema and a throat rattling, while others do not. The weeks following the respiratory involvement are attended with great danger of bronchitis and pneumonia and three of our cases died after six weeks of illness. Many that apparently overcome a respiratory paralysis, I imagine, will later on show dyspnea on the least exertion, and when a pulmonary infection occurs, will be at a great disadvantage in not being able to cough with good effort. I cannot see that the distant future of a poliomyelitis respiratory case is very hopeful.

Not all deaths are due to respiratory failure.

I have seen deaths with temperature of 110 degrees and convulsions with no respiratory involvement. In a few I have seen cardiac failure with medullary involvement apparently cause death. Enterocolitis carried away about three per cent. Pneumonia causes a few deaths without respiratory paralysis and is nearly always fatal in respiratory cases. Noma caused one death for me. Now and then some other sickness with poliomyelitis will be a deciding factor, as pertussis. Tetany manifestations make a serious outlook. Death, as a rule, occurs between the third to seventh days. After ten or eleven days the danger of death from poliomyelitis itself lessens very much. These deaths are apt to be complications.

The Nuzum serum as given did not lower our general mortality. In selected cases Dr. Nuzum showed a mortality of 11.3 per cent. and even lower in another group. Such a selection is hardly fair. I could make a selection of a hundred cases with no mortality, these treated more or less expectantly. Dr. Rosenow's mortality at Des Moines, where he used his serum, was a little higher than our mortality this year. I should like to see these serums given a trial before paralysis develops.

The most hopeful and least damaging is the facial type. Uncomplicated, all my cases, eight in number, have lived and most of them exhibit little deformity except when crying or laughing. When combined with other paralysis the prognosis depends on that complication. Our ataxic cases have all lived and include five cases. The gait has usually improved. We had several cases that resembled the so-called neuritic type. They all lived, but suffered for weeks from pain in the paralyzed extremities. This pain seemed worse at night.

The Landry's type is very fatal and it is difficult to say early whether a case is going to be of the Landry type or not. A lesion high up in the cord is more dangerous than one below the fourth or fifth cervical. Most all fatal cases have a lesion in the cervical cord or medulla.

The meningitic and encephalitic cases are quite serious. I have had five cases of the encephalitic type and four died. These have high fever and convulsions very often. Of the cranial nerves to be involved the tenth, ninth and twelfth are by far the most dangerous to life, because

of their important supplies. Involvement of the others does not seem so serious unless complicated with other paralysis. All spinal cases, unless in the region of the fourth cervical, are favorable to life. The vital spots of the poliomyelitis virus are the third, fourth and fifth cervical and the medulla.

Paralysis of the arms causes more worry than one of the limbs, because it is nearer the fourth cervical region and I do not think I have seen a respiratory case without arm involvement. Ruhräh, Peabody, Draper and Douchez mention that patients who are profoundly ill and who have alert cerebation, practically all die, whereas stuporous cases are rarely fatal. One should not confuse irritability with alert cerebation as irritability is a good sign.

Stupor in my cases has not been a favorable omen. Convulsions, delirium or stupor in our wards have been bad omens and are rather infrequent.

We can only prognose in general as to whether the paralyzed muscles will recover or not. I believe that the outlook is much better in a young child than in an adult. Roughly speaking, the more complete the paralysis at the onset the more likely it is to be very slow in recovering, but exceptions are many. One with a complete paralysis may walk in three months, while another with a little one-muscle paralysis does not improve at all. The paralysis usually takes place by the third or fourth day of the disease and very seldom develops after the eighth day. I know of but a few instances where it seemed about two weeks. Most cases, however, recover considerably and the atmosphere of the poliomyelitis ward after the first week is usually optimistic. Each day you come around some little child will say, "See, doctor, I can move my foot or my arm." "I can sit up." "See, doctor, I can stand today," or "Doctor, I can feed myself today," or the nurse will record certain new antics and developments. There are very few cases of poliomyelitis no matter how complete their paralysis that cannot wiggle toes and fingers and to me it is a point against the diagnosis if the toes and fingers are immovable. An early return or improvement in absent or weakened reflex is a favorable omen.

A very rapid pulse in poliomyelitis itself, that is, over 135 or 140, is discouraging, as is respi-

ration over 55 or 60. You may realize your case is a sick one when the pulse runs above 140 and respiration above 50. Fever seldom is a factor; in certain cases it runs high and they are usually severe cases and often encephalitic cases.

As far as I know the blood count or spinal fluid count bear little on prognosis; a high cell count in the fluid may accompany severely paralyzed cases or not. Blood pressure we have studied very little. Beware if your case cannot cry or holler, if the cough is very weak, if the lips get a little blue when you disturb it, if your patient cannot swallow or chokes on swallowing. These signs usually mean phrenic or bulbar involvement and are serious. Tympany is also a prominent feature in bad cases. As to complete recovery and restoration, I have no personal knowledge, but from statistics it varies. In the Massachusetts epidemic of 1910, 16.7 per cent. made complete recovery. If complete recovery follows it usually does so inside of two months. After this complete restoration of function is rare. It may appear complete, but examination will show it is partial. Just how long paresis or paralysis may last in some cases is doubtful. There may be a little paralysis for a few hours only or a day or two. Dr. E. K. Armstrong, who has visited a number of our last year cases, informs me that about sixty per cent. are crippled.

Rapid atrophy is a bad omen. Electrical reaction may give some light on prognosis of muscle restoration, but it seems this electric question needs careful study. Development of bed sores early, unless case is a neglected one, usually means a serious cord lesion.

The outlook for restoration depends also much upon proper treatment. After poliomyelitis it has been claimed that cord affections and fractures of bones are more apt to follow.

Finally, after all, let us be as hopeful and optimistic as possible in our prognosis of this disease which strikes terror into the hearts of parents and which means a restricted life for most of its victims.

POLIOMYELITIS*

CLARENCE W. EAST, M. D.,
EVANSTON, ILL.

All observers are much encouraged by recent serological developments in the study of acute

poliomyelitis. The very success of those developments is making more imperative, if possible, our obligations in regard to this disease. This is seen in respect to both early diagnosis and early after-care.

I. *Early Diagnosis.* All are agreed that curative sera in poliomyelitis follow the rule of all biological therapeutic agents, i. e., that the earlier they are administered the better the results. Sera, however efficient, cannot restore already destroyed anterior horn cells any more than diphtheria antitoxin can restore already destroyed myocardial cells. There is too frequently found even when poliomyelitis is suspected an attitude of waiting for paralysis to develop before a diagnosis is made. Aside from the disastrous effect upon public health interests which this attitude produces in the failure of early case isolation, it cannot afford serological effort a fair show. Furthermore the disease is still largely overlooked until too late for brilliant results in abortive treatment. Therefore, anything which can be done to assist early diagnosis of acute poliomyelitis is well done.

We make no claims and look for no attainments of *infallibility* in the early diagnosis of acute poliomyelitis, but we do believe that *reliability* according to the standards of practice in other disease entities may be achieved. We, therefore, present the method followed by us, realizing that nothing original or new is hereby offered.

1. We keep in mind that acute poliomyelitis is with us. Not only did we have a serious outbreak in Illinois last year, but we have a serious outbreak this year. The northeastern part of the state has suffered more severely than it did last year. The epidemiology of this disease reveals that elsewhere it has recurred in extensive outbreaks for a series of years, notably in New York from 1907 'till 1916, in which latter year it reached a disastrous climax. On the basis of these facts it is not unreasonable to expect the disease to recur in Illinois at intervals of from one to three years for some time to come, and for it to tend toward a climax in both morbidity and virulence. Thus, having the disease established among us, we can well be on the alert especially during the period of its greatest seasonal incidence.

2. We are assisted in early diagnosis if we as-

*Read before the Douglas Park Branch, Chicago Medical Society, Oct. 16, 1917.

sume a neurologic point of view toward suspicious cases. We are aware that the disease affects lymphatic and other tissues as well as nerve tissues, but so far we are obliged to regard it as marked in tendency to affect nervous tissues. Therefore, we shall have a nervous symptomatology.

A fundamental consideration in the diagnosis is that it is the entire neurologic picture which is important and convincing; we have no pathognomonic symptom or sign, but we do have a complete picture which becomes more convincing, even strikingly so, as our experience increases.

How is this complete picture secured?

A diagram is made under the following headings: Neurological, Respiratory, Gastrointestinal, Cardiac, Renal, Miscellaneous.

History is carefully taken chronologically for a long enough period previous to the onset of actual illness to show any morbid conditions.

History is continued from the onset of illness. This history should include every available item of the patient's status during both day and night. Each item should be entered under its appropriate heading. The results of a complete physical examination should be recorded in the same way.

The very great majority of cases which are poliomyelitis will show a convincing picture in both the quantitative and qualitative neurologic findings. For example, such neurologic findings will be first, pain. Headache and backache are very uncommon in children and always demand interpretation. They are common in poliomyelitis. Tenderness along the spine and limbs is frequent. Drowsiness with twitching during sounder sleep is common. A moderate rise in temperature with evidence of marked vital depression is a neurologic syndrome in this disease. Ataxia commonly appear quite early. Pareses, phonic, deglutitional, vesical and of the bowels, are frequently seen. Diminished deep reflexes with Kernig's and Brudzinski's signs are extremely important. The neck and back stiffness is nearly always to be found. Sore throats occur and diarrhea is occasionally seen.

This summary of our chart, when analyzed, shows that the majority of the findings in both number and significance are neurologic, and furthermore, that those under other headings are

best explained by the primacy of the neurologic element.

Added to this examination should be the examination of the spinal fluid, as to clearness, pressure, cell count and morphology, bacterial and protein and Fehling's reactions. In regard to the examination of the spinal fluid, I believe that reliance should be placed as in the physical examination, on the whole picture and not on a single element.

I am aware that in the state at large it will be a long time before the results of spinal puncture will be sought as a general procedure, notwithstanding their importance. We, therefore, urge with confidence the very highly satisfactory results which may be gotten from a careful anamnesis and physical examination, especially when the neurologic viewpoint is sustained.

2. *Early Aftercare.* The utmost success even in specific therapeutics will still leave an enormous task in after-treatment.

A certain percentage of cases is always present which have so slight a preparalytic symptomatology as to be practically negligible. These cases paralyzed and frequently deformed demand an intelligent aftercare.

Another important percentage of cases is in families either economically or intellectually out of touch with medical science. These patients are first seen in a paralyzed condition.

Diagnostic impossibilities and failures account for another important percentage of paralyzed cases past need of or benefit from abortive therapy and in need of reconstructive effort.

Emphasis is placed on "early" in this discussion. It is early aftercare in which the State is particularly interested. Orthopedists are a unit in the doctrine that operative procedures are not indicated until after at least two years of properly directed effort. In that time in many cases the need for operations may be avoided, and in many other cases much simpler orthopedic treatment will be indicated.

The early aftertreatment of the results of poliomyelitis goes forward on three considerations:

1. The necessity and value of rest.
2. The prevention of deformity.
3. The retraining of the paralyzed muscles.

1. The value of rest can hardly be overemphasized. Among the earliest facts known about

poliomyelitis is that of the tendency of paralysis to disappear from many muscles at first involved. This tendency was formerly stated as being present for sixty days. It is now believed to be present for two years. A full year of comparative rest is an undoubted advantage.

One of the sad experiences in the observation of a considerable number of these patients is to note the secondary slump that so many of them suffer by reason of both voluntary and therapeutic overactivity. The first three months much credit is taken by practitioners for the improvement which nature achieves, after which period by reason of overactivity a secondary slump with serious overstretching of muscles and production of flaccidity and atrophy often supervenes.

2. Prevention of deformity is to be expected in the early care of all these cases. It should be achieved from the first by maintaining paralyzed parts in a condition of muscular neutrality by the use of simple supports and braces. Foot and shoulder drops, knee and hip contractures, hand, arm and wrist flexures can be prevented by very simple appliances which any physician can extemporize.

3. The treatment goes forward on an anatomic diagnosis of the residual paralysis. It is always to be remembered that infantile paralysis is a selective, residual and usually flaccid paralysis. It commonly leaves affected only a part of a muscle, a single muscle or muscle group.

Methods of precision in the testing of muscle strength will reveal widespread muscle weaknesses. However, a predominating single muscle or muscle group weakness is the rule. This should be treated as discretely as a morbid dental condition. In the latter not the whole head or the whole mouth is the object of therapeutic attack, but the pathologic tooth only.

So the morbid muscle should be isolated in our therapeutic efforts and other neighboring muscles, especially opposing muscles, should even be left to loaf. Simple light massage of the good muscles is permissible. They do not need development: Indeed, it is better that they be induced to wait as far as possible for the development of the weak muscles.

Muscular parity is to be sought that the tendency to deformity may be minimized.

Actual retraining of paralyzed muscles is to be delayed until all pain has subsided and is to

be carried out within the limits of fatigue. It is not how much is done as much as the proper things to be done which should guide our effort.

We are to bear in mind that we are undertaking not a gymnastic but an educational effort. Fundamentally we are teaching the patient to re-establish cerebral innervation in his muscular efforts. He is endeavoring to find new transfer paths in the motor cord cells. Under proper conditions of rest and nutrition some of the anterior horn cells involved in the poliomyelitis may have recovered. Others may not have been attacked or seriously injured. These to a very satisfactory degree may be trained to function. Indeed, improvements are achieved even after some years have elapsed.

Could each patient come into the hands of practitioners who would grasp the foregoing simple principles and have patience and opportunity to apply them, the aftertreatment of infantile paralysis would be on a very satisfactory basis.

We find that mothers in homes of very moderate circumstances are able to carry out the simple exercises necessary for muscle restoration. And that with physicians co-operating, we may forestall the enormous dependency which will surely result if these victims, appearing in such large numbers among us, do not have a proper early aftercare.

POST-OPERATIVE TREATMENT OF SURGICAL CASES.*

ALBERT J. OCHSNER, M. D.,
CHICAGO.

[Abstract.]

The paper directs special attention to the importance of removing all decomposing material from the alimentary canal previous to the operation, by a large dose of castor oil given twelve to twenty-four hours before the time of operation together with a large enema. The patient is then given only broth until the time of operation, in order not to re-introduce decomposing material which would be likely to ferment and cause gaseous distension.

Attention is also directed toward the wisdom of reducing traumatism to a minimum during the operation, as well as exposure of the patient.

*Read before the Chicago Medical Society, Dec. 12, 1917.

These precautions are taken in order to make after-treatment unnecessary for pain, gaseous distension, nausea and vomiting, which are likely to occur in case these precautions are not taken.

The following rules for after-treatment, which have been established for the use of House Surgeons at the Augustana Hospital, were discussed in general.

Give hot water by mouth and proctoclysis directly after operation.

For distension of abdomen, nausea or vomiting, make gastric lavage.

For high temperature apply ice coil over heart.

For rapid pulse apply ice coil over heart, and give normal salt transfusion.

For bronchial irritation elevate head of bed 12 to 18 inches, give normal salt transfusion and proctoclysis.

For peritonitis or pain apply therapeutic lamp over abdomen, elevate head of bed, give normal salt transfusion and proctoclysis.

For extreme shock give transfusion of whole blood by N. M. Percy's method.

Give broth, beef tea or gruel on 3rd day, except in peritonitis and in operations on stomach or intestines.

Give soap suds or normal salt enema every a. m. except in peritonitis and in operations on stomach or intestines.

Give soap suds or normal salt enema every a. m. except when causing irritation. Castor oil on 10th day after operation.

Never move patient to dressing room unless in good physical condition.

Never leave patient lying on cart in the hall waiting for dressing or operation.

In cases in which hemostatic clamps are left in the wound, loosen forceps on second evening; remove on following morning.

Remove superficial stitches on 6th day; deep ones on 12th to 15th day.

Remove goiter drains, prostatectomy drains, mamectomy drains on second to fourth day.

Remove gall-bladder tampon on fifth day; cholecystectomy and appendectomy tampons on seventh to tenth day.

Remove vaginal tampon, clean cases on fifth day; endometritis second day.

Give no drugs except after consultation.

A PSEUDO-APPENDICITIS UNCOVERED.

WM. F. GRIMSTEAD, M. D.

CAIRO, ILL.

Before the surgical section of the American Medical Association at Detroit in June, 1915, I heard a paper read by F. Gregory Connell, of Oshkosh, Wisconsin, on the subject of "Pseudo-Appendicitis." It interested me so much that when it later appeared in the *Journal A. M. A.*, I read the paper in detail. Still later when the section proceedings came out in book form I read it again. There was much insipid data in it which, to my mind, could serve no useful purpose; but there was a large kernel in the nut which has a genuine practical value. It seems paradoxical and negative that practical knowledge could be thrashed out of a subject that has no existence.

In reality it was shown, and is a fact, that pseudo-appendicitis is not appendicitis. Then why coin the hyphenated word? Because it rivets attention upon a condition that simulates chronic appendicitis and presents an ensemble of symptoms that is misleading.

Too many patients have been operated on for appendicitis who were not cured. The operation wound healed promptly but the pre-operative symptoms have gone right on. This has been especially true in the work of the would-be surgeon—the near surgeon—the amateur fellow who has a license but who has never been especially trained for surgery. That great Baltimore surgeon, Dr. J. M. T. Finney, in a recent address stated that "there is a great difference between the conscientious, trained surgeon and the commercial operator." The latter has an old knife, which can be cleaned by boiling, and a needle and thread. The eternal principles of Lister have assured him that he can open a belly, go in and flounder around a few minutes, get out again, sew up his incision and escape a funeral. This is an impressive ceremony and often profitable.

He reminds us of the frontier medicine-man in the story I have told some of you but which is too frivolous for a repetition before a dignified body like this. He exclaimed, "Hail Columbia, happy land; if I ain't a surgeon I'll be damned." An occasional pain in the belly is sufficient evidence for a diagnosis and an operation. This class need not include the plain grafter who

will operate on any unsuspecting "guy" who thinks he is sick, falls into his snare, has the price and will submit. I think you know who I mean without my going into details that might make some visitor present, not a member of course, feel like I meant him.

In these days of scientific precision and numerous means available for accuracy in diagnosis, men in surgery can no longer justify themselves in haphazard conclusions and make abdominal sections which do not reveal the disease nor cure the patient. On the contrary, as pointed out by Dr. Connell, as long as a 10 per cent mortality attends hospital operations for appendicitis, it points to somebody's ignorance or neglect. The operative treatment for appendicitis is so safe when done in the right way and at the right time, that a fatal issue should not occur more than once in, perhaps, 200 cases. If, after a careful inquiry into the history of a case, a careful physical examination to which modern means for differentiation have been summoned, error has crept in and is revealed at the operating table, what is the surgeon's duty? The answer is that he should explore that abdomen from top to bottom, from side to side, including the pelvis. This does not mean that abdominal sections should be employed as a routine diagnostic measure. It means that glaring error should be cleared up, if possible, while the belly is open. Such an exploration will often correct the error in diagnosis and enable the operator to cure the patient in spite of his mistake. If he cures his patients he, for the most part, will be forgiven for his error, escape criticism for ignorance and a possible suspicion of dishonest money-getting. More than once I have found an innocent looking appendix which had been unjustly accused by diagnosis and could not possibly explain the patient's symptoms. Then I have enlarged my incision, which I usually make through the lower, right rectus muscle, so that I can introduce my hand. The gall bladder and stomach were explored; the colon inspected for Jackson's membrane; Lane's kinks hunted; bands of adhesion from whatever cause, and other obstructive conditions sought. If the patient was a female the uterus and adnexa have been palpated and inspected. Tuberculosis, syphilis, malignancy and spinal lesions, gastro-enteroptosis and neurasthenia are apt to be identified by the history

and x-ray. The modern, highly perfected x-ray machine with its fluoroscopic exposures, both in the vertical and horizontal positions, are affording invaluable information relative to all kinds of obstructive conditions in the alimentary tract and prolapsed viscera. In the discussion which was brought out by the paper above referred to, Dr. Laplace of Philadelphia laid stress upon impactions of the cecum and the filtration of toxins that cause neurasthenia and precede and follow enteroptosis. He said that typhlitis, formerly so much talked of, had been obscured by the more common appendicitis, until we were losing sight of its existence to the detriment of our patients and of surgery.

At this juncture I wish to report a case of intense interest to me and which serves to bring out, in a most impressive manner, one phase of the subject under consideration.

In the spring of 1916, a school boy complained of pain in the appendical region. A little rise of temperature showed at intervals. The jar of walking and the physical effort at steering his motor car were painful. He was taking a commercial course in Brown's Business College but would remain in bed half a day at a time and miss school which was unlike a boy of that age. Nothing could be felt through the abdominal wall. He complained of a little tenderness on pressure.

I could make nothing out of it but a "bum appendix," pardon the slang. He and his intelligent parents readily consented to operation although he was the only child they possessed and at their age they did not expect another. We operated in April, 1916. The appendix appeared somewhat thickened, hardened, elongated and injected but this macroscopic pathology seemed out of proportion to his symptomatology. He made a prompt and uninterrupted recovery but in a few weeks his former symptoms returned. He alleged severe pain under the scar from the operation wound. Nothing could be felt. I told him that adhesions might be pulling or a chronic gut stitch used in closing the abdominal fascia had not absorbed properly. I gave him laxatives and digestion promoters to free him from gas and constipation. Instead of improving his symptoms grew worse. A rise of temperature came daily. We put him back in hospital for a week and tried out the tuberculin test which was

negative. One day in October, same year, he and his parents called to say that they were on their way to Chicago to consult a specialist. They asked me whom I would recommend. I told them whom I would consult. Moreover, I told them that I would be in Chicago a day in latter part of that week enroute to the Clinical Congress of Surgeons in Philadelphia, and would be glad to learn the verdict. Then they declared they would not see the specialist 'till my arrival if I would go with them to his office. To this proposition I gave assent. They met me at the train and stated that they had arranged an appointment to see the specialist at the Hospital where he spent his forenoons. We were soon in the presence of one of the most noted internists in America and his team of satellites. They shelled him out of his clothing and went over him from his head to his heels. They found nothing of note except his tonsils protruded from the pillars of his fauces. They asked to keep him a week which was unhesitatingly granted. I was absent from home for about ten days. Soon after my return I received a letter from the Doctor reporting his findings. He took the precaution to mail a copy of his letter to the father of the patient. Two interpretations may reasonably be placed upon this diplomacy. He had referred the boy to another specialist who had removed his tonsils, charged him just four times the fee I regularly get for exactly the same stunt by the Sluder method and sent him home. Our first specialist thought he had put his finger on the source of infection which caused the temperature. He thought the pain complained of was a neurosis and mainly the product of mental concentration. I will read you his letter but will not give you his name because he is a man whom the medical profession of America should honor and protect. (Letter read.)

In two or three weeks the boy's symptoms returned. Both pain and fever increased until he could not run his car or go horseback riding in comfort. His evening temperature sometimes reached 102 degrees. In desperation the father brought the patient back to know if nothing more could be done. I told him that, notwithstanding the national reputation of our internist who was an author and distinguished teacher, I did not believe the boy's tonsils had produced

his fever nor that his pain was a neurosis. I advised that he re-enter St. Mary's Hospital and allow me to open his belly again and make a thorough exploration of the abdominal viscera, especially of the lower right quadrant. They did not hesitate to accept my advice. I ran an incision around the scar from my section just eight months previous and dissected it out to see if it enclosed any pathology or un-absorbed chronic gut. It proved to be perfectly healthy. When I pulled up the cecum I noticed some tiny tubercles dotted about over it but no adhesions anywhere. Examination of the colon and ilium was negative. I then started exploration of the mesentery and soon detected a lump in that of the cecum, large as the terminal phalanx of my little finger, then another and another 'till I located eight. I carefully dissected them all out, tying small vessels and closing the incisions with small cat gut. The abdomen was closed without drain. My tray of nodes resembled sections of boiled shrimp shelled out. I sent them to my pathologist for microscopic examination and to make a culture but he was sick and let the specimens spoil. I then turned the patient over to my associate, Dr. Roy E. Barrows, with the request that he put him through a six months' course of tuberculin hypodermically. Patient took six months of it. His fever never returned, he has put on several pounds in weight and only occasionally feels slight pain. He is now in a military school in the mountains, the best possible place for him. I am now convinced that I removed a tubercular appendix at my first operation and tubercular glands at my second and have cured my patient.

Cairo, Ill.

WAR WORK OF AMERICAN MEDICAL WOMEN.*

ELIZA M. MOSHER, M. D.
BROOKLYN, N. Y.

The second annual meeting of the Medical Women's National Association, Dr. Bertha Van Hoosen of Chicago, President, was held in New York City, June, 1917. In view of the pressing need of physicians and surgeons in the War Zone and in the devastated districts of Europe,

*A resume of the first quarterly report of the chairman of the Women's Hospitals Committee to the Medical Women's National Association.

a War Service Committee was appointed by the Association to deal with the situation. This body created an Executive Committee with defined powers, of which Dr. Rosalie Slaughter Morton was unanimously elected chairman. Dr. Morton's selection for this post was a wise one. The Serbian Government had bestowed upon her a decoration for her service in that country. In France special privileges had been given her to inspect and study the French hospitals, and after returning home from foreign duty she has still kept in close touch with the work.

Mr. Leo. Schlesinger, of New York City, placed at the disposal of the Committee a suite of rooms in his office building, 637 Madison avenue, admirably suited to its purpose, and there early in June the Committee was installed and intensive work began. Before the Committee had completed its organization, Dr. Franklin Martin, Chairman of the General Medical Board of Washington, asked for an outline of its plan of work. This outline which Dr. Morton presented in person, received the unanimous approval of the Board and Dr. Morton was appointed a member of it and Chairman of a committee of nine women physicians from different parts of the country, who were selected from a list of twelve submitted to Dr. Martin.

This Committee of Women Physicians of the General Medical Board may be regarded in the light of a congressional committee, its constituency being the women physicians of the United States. If the latter wish to have force and efficiency, organization is necessary. This committee of nine members is not permitted to increase the membership of the General Medical Board; obviously, therefore, it could not encompass the extensive work now going forward under the American Women's Hospitals, which it is hoped, the general co-operation of women throughout the country will make even more extensive and thorough, and consequently of more value to the General Board. We are now in a position to supply the data necessary to supplement that on the cards sent out from Washington, and on file there.

Copies of the outline prepared for the General Medical Board were laid before Col. J. R. Kean, Director of the Department of Military Relief of the American Red Cross and the Surgeon General of the Army, General Gorgas. They

both expressed the greatest interest in and approval of the work, General Gorgas said that if the war continued for any length of time, the services of every woman doctor in the country would doubtless eventually be needed.

To anticipate this need, the plan of the work, with registration blanks, was mailed to 5,000 medical women, asking them to enroll. On October 6, at the time the first quarterly report of the American Women's Hospitals was issued, 115 women had registered as follows:

1, Women's Units, 150; 2, Women's Units to Allies armies, 110; 3, Service in established Units, 103; 4, Maternity Units to devastated regions, 84; 5, Village practice, 25; 6, For service in any of the above five, without choice, 110. The registration blanks are still coming in and it is hoped that every woman physician in the country will record herself as being willing to serve her country in its hour of need.

Dr. Esther Lovejoy of Portland, Oregon, and Dr. Alice Barlow, of Winnetka, Ill., are now making a study of civilian conditions in France for our War Service Committee and the following doctors, members of the American Women's Hospitals have been sent by the Red Cross to the other side.

Esther L. Blair, M. D., Pittsburg, Pa., Women's Medical College of Pennsylvania.

Dorothy Child, M. D., Johns Hopkins University.

Florence Child, M. D., Johns Hopkins University.

Edith Lyon Heard, M. D., Women's Medical College, Pennsylvania.

Mary Nevin, M. D.

Esther E. Parker, M. D., Cornell University.

Helen L. H. Woodroffe, M. D., Denver Homeopathic, 1900.

Marion C. Stevens, D. D. S., Tufts College.

Ida R. Shields, M. D., University of London, England.

Laura C. Wiggin, Anesthetist.

(Many more American medical women have gone abroad since this list was compiled.)

In September the Red Cross asked for two units of women doctors to go immediately to Roumania. Their departure has been delayed for diplomatic reasons, incident to the situation in Russia. There are also in readiness forty doctors, who may be called within the next thirty

days, and units have been arranged which can be mobilized within a few hours.

The women doctors present an attractive appearance in their uniforms, which were planned by Dr. Morton at the request of the Red Cross. The lines of the Red Cross uniform for men are followed, and the uniform is both smart and attractive.

The American Women's Hospitals' flag and proper insignia designed by Miss Brenda Putnam, a niece of that brilliant pioneer among women physicians, the late Mary Putnam Jacobi, has been adopted. The flag is blue and white; the drooping wings, the symbols of the American Women's Hospitals, are grouped around a shield bearing the name "American Women's Hospitals." The pins of bronze, are sheltering wings, denoting protection and comfort, with the emblem of the various branches of the service placed upon them.

Open meetings of the American Women's Hospitals were held every Thursday afternoon throughout the past summer and will be continued indefinitely. These meetings presided over by Dr. Morton, or in her absence by Dr. Emily Dunning Barringer, the Vice-Chairman, have been of great interest, not only to the members of the organization, but to the general public. Inspiring speeches by friends of the organization, and officers, doctors and nurses returned from the front have been a feature of these meetings. One of the most interesting was the address made by M. Liebert, the French Consul General at New York.

An important branch of the American Women's Hospitals is that of the A. V. A. (American Volunteer Aid). This body was formed after the British V. A. D. (Volunteer Aid Department) and is in a thriving condition. Those wishing to join are given forms on which must be entered all data concerning non-medical women who wish to be laboratory assistants, ambulance drivers, stretcher-bearers, interpreters, dietitians, clerks, etc. A number will be needed in the units already in readiness. These lay assistants have a distinctive uniform for both identification and protection.

The Surgeon General of the Army, has expressed his willingness to place in base hospitals, as Contract-Surgeons, women physicians as anesthetists, radiographers, and laboratory work-

ers at a salary to be arranged by contract, and not to exceed \$1,800 per year. The need for laboratory workers is so great that courses have been opened at the Women's Medical College of Pennsylvania, Women's Hospital, New York, and at the Research Laboratories of the New York City Board of Health. These courses are given to college women who have already studied chemistry and biology, in order to fit them, at a nominal expense, to become laboratory technicians, and to assist our physicians. Physicians connected with laboratories which offer such courses in the different parts of the United States, and women wishing to apply for this training are requested to take up the matter immediately with the National Chairman of Laboratory Work, Dr. Martha Wollstein, No. 1 West 81st Street, New York City.

The Chairman of the Committee on Army Hospitals in the Home Zone, both for acute and convalescent cases, is Dr. Mary Almira Smith, 33 Newbury street, Boston, Mass. The American Women's Hospitals, have in Boston, two hospitals in readiness for convalescent cases and several others near New York. Its Women's Army General Hospital of New York, which has recorded its personnel and equipment in the War Department at Washington, has been told by Surgeon-General Gorgas, that it will be notified when this is needed, and that it has the same status as all other army hospitals in the home zone.

The Women's Committee of the General Medical Board has had two meetings, July 29, and September 29. A registration card was sent to the women physicians of the United States with a view of ascertaining how many would be willing to serve in base hospitals as contract-surgeons, radiographers, laboratory workers and dressers of wounds. These cards are now being filed in Washington for reference in case need arises to place women in base hospitals to replace men for field hospital service.

The following are the regulations regarding contract practice:

1. Contract-Surgeons do not receive pensions except by special act of Congress.
2. The Government pays for transportation, quarter, heat and light, the same as furnished the first lieutenants.
3. There is no additional pay for foreign

service; the contract specifies where the service is to be, and the amount to be received for this special service.

4. \$1,800 a year is the maximum, the minimum being whatever agreed to for the particular service to be rendered.

5. The amount is regulated by agreement; the surgeon states his price and the Government accepts or rejects; or *vice versa*.

6. The immediate superiors are commissioned officers of whatever rank in command at the station where the contract-surgeon serves, *even though they be only first lieutenants*.

The Surgeon-General's office expressed an interest in knowing how many women wished to become members of the Army Reserve Corps, and a letter was sent by the General Medical Board Committee of Women Physicians to the presidents of medical women's organizations asking an expression of preference for this service, but comparatively few made their offer of war service absolutely contingent upon their becoming *officers* in the Army Reserve Corps.

It is the intention of the Medical Women's National Association to continue the work of this War Service Committee until the end of the war if the need for it continues to exist.
184 Joralemon street.

RADIUM.*

C. W. HANFORD, M. D.,
CHICAGO.

If 500 milligrams of radium were to be placed in contact with or in the center of a neoplasm for a period of fifteen hours, all cancer cells in a radius of an inch and a half would receive their death blow. But in accomplishing the execution of the lawless cells we would at the same time work havoc with perfectly healthy cells that happened in the path of the penetrating rays, causing serious necrosis in the immediate vicinity of the irradiation, besides general systemic disturbances of an unpleasant and dangerous character.

Therefore, we do not use 500 milligrams of radium element for a long uninterrupted session, but secure the ultimate death of lawless cells by dividing the total time of application so that if we should use this massive dose of ra-

dium, it would be in contact with any one point of the cancer mass but a fraction of an hour.

Kelly of Baltimore uses 500 milligrams of radium element in one applicator, applying the same to eight different points on the interior of the uterus in the treatment of myopathic hemorrhages. The applicator is left in each position but fifteen minutes, making the entire treatment one hour and forty-five minutes. This is all very well if we are fortunate in possessing 500 milligrams in one container. But the same end results can be obtained with 50 milligrams left in the uterus for twenty-four hours.

There are times when a massive dose of radium is much to be desired as, for instance, in irradiating growths in the mediastinum. In these cases one to two grams are employed, but are screened heavily with lead, besides being elevated several inches above the skin, that surface burns may be minimized. Burnham (*Jour. A. M. A.*, Sept. 20, 1917) reports several cases of mediastinal tumors that were caused to disappear under the influence of upwards of two grams of radium (2,000 milligrams).

The majority of us are working with less than one gram of radium and we cannot attempt such deep therapy with less than 500 milligrams.

As we lessen the amount of radium used we can increase the time of exposure. But in reducing the amount of radium we come to a point where the amount used would not destroy cancer cells, but on the other hand would act as a distinct stimulant to their growth. Prime of Columbia University in his experiments with chicken heart has found the lethal points of small pieces of tissue, where the unfiltered rays were concerned, was twenty, fifteen and ten minutes for 17, 83 and 100 milligrams of radium element, respectively. When the alpha and beta rays were removed by filtration with 0.4 millimeters of brass, three hours, one hour and forty-five minutes, respectively, were required for 17, 83 and 100 milligrams to kill; whereas when only the gamma rays and secondary beta rays were employed, twenty hours were necessary for 17 milligrams of radium and about seven hours for both the 83 and 100 milligrams to cause death.

The initial dose must be large enough to permit of a quantity of gamma or penetrating rays going through certain millimeters of tissue. And as these penetrating rays constitute but 1 per

*Read before the Chicago Medical Society, Nov. 14, 1917.

cent. of the total activity of radium, we have found by experiment and experience that there is a minimum amount of radium that can be used with certainty of cell destruction.

It was one time said that quantity of radium times period of application equals a constant. In other words, that one milligram of radium applied for 100 hours equals one hundred milligrams of radium applied for 1 hour. This is not borne out in practice, for the speaker has seen cases of malignant growths increase rapidly in size under the influence of sublethal doses.

It is true that the local ulceration of a carcinoma of the cervix will sometimes heal temporarily under the influence of ten milligrams of radium applied for long periods. But such small doses have no influence on the cancer nests in the deeper structures of the organ. To reach these deeper nests it is necessary to employ at least 50 to 75 milligrams of radium for a total period of 60, 75 or even 100 hours. If large doses of radium are used it is not necessary to repeat the application each day until the total number of hours have been given. In fact, some patients do much better if a week is allowed to elapse between irradiations.

Radium has passed through many vicissitudes. It has been much maligned and highly praised and in both extremes seemingly satisfactory evidence has substantiated the derogatory criticisms as well as the laudatory claims. Therefore, it became evident that something was amiss, when two sets of observers, presumably honest and competent should note such widely divergent ultimate effects.

We believe that the reason for some of the adverse criticisms was due to the lack of knowledge of the physics of radium and consequently failure to apply it to insure beneficent results. But as time goes on we are learning that radium is a powerful agent and is not to be tampered with thoughtlessly and without care. We know that radium is productive of much harm improperly applied, but is of inestimable value when attention is given the rules governing the action of the rays on and through tissues.

The radium therapist early learns that all tissue is not affected similarly by radium.

There is a difference in the receptivity of cells to the rays. This receptivity varies with the age and race of the cell. Embryonal or undiffer-

entiated cells are destroyed by the rays, while farther developed surrounding tissue undergoes only a simple or metabolic change. Some of the growths, such as lymphadenomata, pure sarcomata and fibromata are distinctly radio sensitive. But the growths peculiarly resistant to radium rays are the squamous celled epithelioma, fibrosarcomata and osteosarcomata. The adenocarcinomas are very amenable to radium.

In the early days of radium therapy, Schauta of Germany used from 50 to 100 milligrams of radium element in the uterus for periods ranging from three to eleven days. The results were disastrous. Of the 13 cases thus treated one died of pyonephrosis and eight showed fever, steady loss of weight, vomiting, tenesmus, diarrhea, headache and reduction in blood count. After these drastic measures, the autopsies showed not a trace of carcinoma, but even so, the patients might as well have died from the disease as from the remedy. In this country we have all taken advantage of the mistakes made by the early investigators and are, thereby, securing the maximum lethal effect on malignant cells with minimum untoward action.

Schauta immediately realized his mistake and at once reduced the time of each exposure and increased the thickness of his screens. With this new technique he treated 11 cases of uterine carcinoma with exposures not to exceed 12 hours and would allow several days to elapse before the next application. He was very cautious while treating this series, this extreme caution being due to the unpleasant results following the treatment of the first series. In the manner above mentioned he gave from 5 to 8 exposures and after this would allow a rest of four weeks, when he would give a second series of shorter duration than the first. After a month a third series of still shorter exposures were given. Of these 11 cases 3 were somewhat improved and 8 remained apparently cured.

In carcinoma of the uterus the speaker has found that if the patients are well nourished with little or no cachexia, they can stand frequent exposures to 50 to 60 mgms. of radium and I often give four 15-hour exposures on consecutive days. This procedure is usually employed in inoperable carcinoma of the uterus. The patient is requested to return for a second series of irradiations. In cases of recurrence after

hysterectomy, the same plan can be followed, though, as a rule, we do not give as many milligram hours in a recurrent case as in an inoperable or border line case. I have secured good results unaccompanied by nausea or fever by using 75 milligrams heavily screened and placed in the cuff in the vault and left for 24 hours. When left for this length of time, the next application should not be made till the lapse of three weeks. If the recurrence is localized, three of these exposures are usually sufficient.

When the patient returns after the first application or series of applications, all signs of ulceration have disappeared, as a rule, but it is not safe to allow this seeming healing, influence us to end our treatments, as there are no doubt active cells in the deeper tissues that require longer irradiations.

If the patient is in a weakened condition from loss of blood or septic infection, a ten or twelve-hour irradiation is all they can bear. These exposures can be repeated every other day until four applications have been given.

The first effect of radiumization is cessation of bleeding and disappearance of odor. In some instances the pain associated with malignancy will be lessened or stop altogether.

The skepticism evidenced by some physicians, concerning the use of radium in malignancy, is due, I think, to the fact that they have not been permitted to observe the action of radium and again in some instances where they have witnessed its action, they have been unfortunate in viewing it through a veil of faulty technique. The dose has perhaps been too small or too large; too much or too little screening as well as insufficient or over-exposure.

Of course, the effect of over-exposure or insufficient screening is not so evident when radium is applied to the cervix or uterus as when used, for instance, in the rectum. In the latter situation it is never advisable to give an exposure of more than six hours when using 50 to 75 milligrams of radium. This dose can be repeated each day for three or possibly four days. In mucous membranes like the rectum, the screening should be such that only the penetrating rays pass. Otherwise contraction will result and in the rectum a marked proctitis will follow.

The bladder seems to withstand 50 to 75 milligrams for eighteen to twenty hours with very

little evidence of irritation following. By using this dose if the applicator is placed directly in contact with the bladder neoplasm for a total exposure of 30 to 40 hours spread over several days, the mass will be greatly reduced in size after a month and all bleeding will have stopped. Even in cases where the bleeding has been quite profuse, it has ceased after the first application of radium. It will be necessary to repeat these irradiations at varying intervals, until the growth has disappeared. It is hardly necessary to say that not all of these neoplasms respond to radium, but it is rare to find one that is not influenced for the better and where pain, bleeding and irritation have existed, the patient experiences much relief after the irradiations.

It is quite simple to make the application of radium to the bladder if the growth is in the trigone, as it usually is, and especially so if a suprapubic opening has been made. If applied through the urethra a 26 or 28 French urethroscope can be employed and the tube containing the radium with wire attachment can gently be pushed through and into the bladder, where it will lie in the confines of the trigone. If the neoplasm is on the lateral or anterior wall, special applicators must be employed. Barringer (*Boston Med. and Surg. Jour.*, Sept. 27, 1917) reports twenty-five cases of carcinoma of the bladder. Two of these he says would have been considered good operative risks. The other 23 were all impossible operative risks. In four of the twenty-five cases radium has locally removed the growth. One of these has been cystoscopically cured for 10½ months, one for five months and one recently. One has what is probably a slight local recurrence, although pathologic examination of a piece removed does not confirm this view. Barringer concludes the report by the statement that the results in these four cases shows that radium can do as much as surgery for cases of bladder carcinoma, without subjecting the patient to the danger and discomfort of a major operation.

Papillomas of the bladder are very amenable to the rays of radium and will disappear inside of two weeks. Of course, fulguration will destroy papillomas, but such destruction is not permanent, while the disappearance caused by radium is permanent.

Regardless of what others report, I have found carcinoma of the tongue and tonsil rebellious to radium. Perhaps one reason for this view is because I have seemed to get the case after everything else has been tried. The local evidence of cancer of the tongue or tonsil frequently disappears under the influence of large doses of radium. But there is such an intimate connection with the cervical lymph glands that metastases are present in the majority of cases. The cases I have seen in my individual work have mainly been those far advanced with great involvement of the surrounding lymph glands. By using large doses of radium a halt in the progress of the disease can be noted, but this is only temporary. I have had two cases of carcinoma of the tongue where the disease was localized, in which cases all evidence of the disease has disappeared under radium.

Leukoplakia and other superficial affections of the mouth and pharynx disappear quickly under radium treatment. It is not necessary to go into the details of treatment of these cases, as the technique is quite simple.

It is well-known that sarcomas are readily destroyed by radium. I have treated three cases of sarcoma, occupying the pharynx and postnasal space, that have apparently disappeared. Last spring Dr. O. J. Stein reported to the Chicago Laryngological Society a case of sarcoma of the pharynx, post-nasal space and antrum which was cured by radium. He was positive the man was cured, as no sarcoma cells could be found at the autopsy. The patient died from an intercurrent disease.

Among the benign growths affected favorably by radium, fibroid disease of the uterus stands out prominently, as it is rare to find a case where radium does not reduce the size of the growth as well as exert a most beneficial action on the distressing symptoms, menorrhagia and metrorrhagia. To secure the best results, every effort should be made to introduce the radium tube into the cervical canal and uterus. The use of radium in the treatment of uterine fibroids is not new. In 1910 Wickham of Paris reported over sixty cases treated satisfactorily with radium. Abbe of New York treated his first cases of uterine fibroid 12 years ago and since then has treated 30 cases, always with pleasing results. He reports that he has yet to see a case

which did not shrink, some completely, some rapidly, all in large measure. If the pressure symptoms are marked because of the size of the growth, it is the policy of most gynecologists to strongly advise operation. This procedure is adopted, not only because of the pain caused by the pressure, but because of the fear of malignant degeneration.

Another non-malignant condition of the pelvis readily cured in at least 99 per cent. of cases are the myopathic hemorrhages of the uterus. Clark of Philadelphia reports 100 per cent. of cures. The persistent hemorrhages that occur at the time of the menopause are permanently controlled by the use of from 40 to 50 milligrams of radium applied to the interior of the uterus for twenty-four hours. Occasionally it is necessary to repeat this treatment. Curettage should always precede this treatment, that the cause of the bleeding may be determined.

The last benign condition which I wish to speak about as applicable to radium therapy is goiter. The size of the growth and the distressing symptoms associated with this disease are markedly lessened by the topical application of radium. Aikins of Toronto reports seven cases. In each case the growth eventually disappeared. The nervous symptoms subsided quickly and the rapid pulse came to normal. The action of radium is to produce a sclerosis, which is preceded by an obliterative endarteritis.

Just a word relating to radium and Hodgkin's disease: In selected cases of this disease, radium applied over the enlarged spleen will reduce the size of the latter and gradually bring about a lower white cell count. There are several reports of cases where all signs of the disease have disappeared. Ordway of Albany reports two cases of leukemia treated with radium where the white cell count was reduced from 500,000 to 6000, and the red cells increased from 2,000,000 to 5,000,000.

Before closing this paper I wish to speak briefly of radium as a prophylactic; its value for this purpose is recognized by all operators who have had even a limited experience with the power of the rays and to a greater degree by those who have given the subject more than passing notice. All operators have long known the limitations of the knife and though the most perfect technique is followed and the greatest

care exercised in removing a malignant growth, the percentage of recurrences is large. Therefore they have turned to radium as the "hand-maiden" of surgery to pick up the wandering cells and prevent implantation.

From the opinions voiced by some of our leading operators, it would appear that we are rapidly approaching the time when the operator will not discharge his case after removal of a cancer mass, until the local area of the operation has been thoroughly rayed with radium. This should be done within two weeks after the operation. By observing this timeliness we are much more certain of controlling the recurrence and spread of the disease than if we wait until the return of ulceration. If the surgeon waits until the recurrence has actually taken place, there is the probability that the disease has extended beyond the area of ulceration and there is no certainty of reaching all points that have become infected.

BEDSIDE BLOOD COUNTS.*

ADOLPH GEHRMANN, M. D.,
CHICAGO.

Mr. President and Members: Bedside blood counts are usually emergency tests made to clear up a situation or to finish a diagnosis that has been in the forming. It is important to have the result right away because something has to be done for the patient or a prognostic opinion has to be expressed at once. These bedside counts do not differ from more elective tests in technic except that one is often at considerable disadvantage because of the patient's room or surroundings, and often because the patient is restless or excited. The weight that is given to the findings in the further conduct of the case makes it necessary to be very careful to fulfill every detail with most deliberate accuracy.

It is therefore well to plan out beforehand exactly what one is going to do before coming to the case. One must have everything that is needed and know that each detail is perfect. If there is any doubt on this point, and as an extra precaution it is an advantage to have a duplicate outfit for counting ready.

We can only give some of these details of technic consideration here.

In making blood counts it is well to have a list of the articles required made up and to check off on it when laying out the outfit. On this list it is well to have everything even to eye glasses if these are used. It is also well to have a tray for the outfit and never to put anything on the bed. Another technical difficulty is the light. An accurate blood count cannot be made in the dark. On dark days and at night I take along both a rubber tube and burner and an extension cord for an electric bulb, which can be used also for the microscopic examination. A blood count is worthless unless the pipette is exactly filled to the mark and every precaution must be used to make this sure. Then we must make sure that none of the mixture runs out. Always place the tube on some smooth hard surface. I have found that even a smooth laid towel might wrinkle and if the opening of the blood pipette touches the cloth the fluid will be siphoned out from it. The spreading of the film for staining is not always easy. Usually this is done last. If one is expert enough in the pipette filling the time will be quite enough before coagulation begins, but if there is the least coagulation the slides cannot be spread evenly enough. It is then best to wipe off the old drop and spread from a fresh drop on the finger. We have tried many devices for spreading films and although every one may have his favorite method, we are most sure to get a good film when the drop is on one slide and is then spread over another and all of the drop used in the film. I find that the greatest error comes when only part of a drop is spread on the slide. It is also well to have a tray along for staining so that the stain does not get on fixtures.

The results of blood counting under these conditions relate to anemias, acute medical and surgical infections and as evidence of change during their progress and finally in the different varieties of leukemia. The plain easily recognized pathologic states we cannot discuss in a few moments. It is that phase that will bear most on the interpretation of the doubtful or borderline cases that will interest us at this time. We may consider them:

- Red blood cell count,
- Blood platelet count,
- Total leukocyte count,
- Differential count.

*Read at the meeting of the South Side Medical Society, Nov. 30, 1917.

The red cell count is generally not of first importance in bedside blood counts. Sometimes as a differential diagnostic factor in some severe condition it is of great value, for instance, in internal malignant disease, a steady fall in the number of red cells is always very suspicious. As far as the red count in these severe cases is concerned, its value is more in the comparative results seen in several tests made at regular intervals, then in a single test. In cases of internal hemorrhage, the red count is also of value in indicating the course of the case.

Recently the counting of blood platelets is being actively pursued. Platelet counting can be done the same as a red count and requires only that one be quick and have a special solution that will preserve these cells and keep them from agglutinating.

Diner's fluid is a good mixture:

Sodium chloride .....	.84 gram
Sodium citrate	2.—
Azure II .....	.001
Formalin	3 gtt.
Water to make	100 c.c.

The principal point is that the blood must be quickly diluted and fixed. The normal count is about 300,000 per cubic mm. They are increased in secondary anemias, chronic rheumatism, tuberculosis and during recovery from most infections. They are decreased in purpura and in the active part of most acute infections.

The most interesting and most important part of the bedside blood counts, is the total leukocyte count and the differential count. The blood in every specific condition, has its more or less typical and peculiar change or picture. It is of most interest when there is uncertainty and the blood count must help to decide. The cases may be considered in this relation as early and late. When it is possible to have a blood count at the very beginning of an infection, it is very often possible to make out some typical change in it that will perhaps prove a diagnosis. In late cases the special findings are of less value, but it is often that some persistent change or relative numerical change in the cells certainly directs attention to this or that special pathology in the patient.

Those conditions that are of interest to us may be briefly summarized.

Leukopenia, especially in typhoid and malaria, influenza and measles. That a leukopenia can

be temporarily caused by doses of drugs, especially coal tar preparations, must not be forgotten when making tests in the very beginning of a sickness where the patient has taken a liberal dose of such drugs. Leukopenia may also appear suddenly during severe infections, as in fatal cases of pneumonia or sepsis.

Leukocytosis. A physiologic total increase should be explained by inquiry. The medical infections showing leukocytosis are usually better differentiated by other signs than the total leukocyte count and it is only of interest in some special circumstances to indicate possible complications or to show progress towards recovery.

Leukocytosis in surgical and in borderline cases is many times of such importance as to be decisive. These are cases of hidden abscess, appendicitis, kidney abscess, osteomyelitis, mastoid infection, brain abscess and the various types of meningitis. The early diagnosis of appendicitis is always a matter of uncertainty and the blood count is often the chief indication as to what is taking place in the patient. A persistent count of over 20,000 leukocytes per cubic m.m. shows practically every case as a purulent infection. On the other hand, a purulent case occasionally never shows over 10,000 leukocytes per cubic m.m. I think that if we could get the exciting organism in the very beginning we would find that this wide discrepancy is explained by the kind of bacterium. Staphylococci are very certain to cause active high leukocytosis while a pure colon infection would give a lower count. One must also remember that in the early stages of appendicitis there may be still some drainage from the appendix. Localized pain, fever and leukocytosis are seldom false signals calling for relief from a septic infection.

Generally the height of the count corresponds more with the resistance of the patient than with the degree of infection, and very little can be drawn as to the activity of the process from the count alone. At times a toxic leukocytosis may give a wrong impression and can only be corrected by the history or other findings as shown by the urine, gastric contents or by noting an intestinal stasis. If it is possible to relieve the toxemia at once, the leukocytosis quickly subsides while should it persist there is more in the case than a simple toxemia. A persistent leukocytosis without fever makes one always feel that

some type of leukemia is going to appear in the case before long.

With the differential count the total count finds its place and value. Often in emergency counts it is enough to know the principal increase, but it is usually best to make a full count. There is still some uncertainty as to how to classify the cells. Warfield has grouped them as:

Polynuclear	}	neutrophils.
		eosinophils.
		Basophils.
Mononuclear	}	Small lymphocytes.
		large lymphocytes.
		transitional forms.
		mast-cells.

The special cells of leukemias.

For the purpose of a bedside blood count fine differentiations are only at times of value. For instance in Hultgen's counts for suspected typhoid fever the increase in the transitional or horseshoe type of cell makes the diagnosis. Also a sharp increase of the polynuclear cells in the very beginning of a fever case shows distinctly a confined pus coccus infection somewhere. A sudden increase in mononuclear cells, especially small lymphocytes is sometimes hard to understand and one should not be surprised to see it in unusual cases, more often in children. An acute leukemia can supervene in many conditions and one should be alert to find it, especially in conditions involving the glandular system of the body.

A *marked eosinophilia* always shows some important pathologic state. Why these cells appear is not quite clear but they generally indicate parasites, skin diseases or anemia when the increase is over 5 per cent in the count. I am inclined to consider malnutrition as the chief reason for their appearance. As a diagnostic sign they can be read as indicating only a symptom that is due to some definite underlying disease condition. It is probable that in cancer cases the increase in eosinophils is a nutritional sign rather than any specific indication of malignancy.

Bedside blood counts in subacute and chronic cases may show the most remarkable and rapid changes. As signs of complications during the course of continued fevers and as showing secondary or mixed infections, in various forms of surgical conditions, the bedside count is most

valuable. As a finding or indication of a terminal condition there is both a sudden increase or a sudden decrease of leukocytes to be found. A rapid fall in the polynuclears is a danger sign for the patient by showing failure in immunity; and a sudden increase in lymphocytes is also a serious state by showing circulatory stasis. As most of the conditions for which one makes the emergency blood count are serious it is best to read the count into the case rather than to read the case from the result of the examination.

Columbus Medical Laboratory.

GARDEN WORK FOR WOMEN IN PUBLIC INSTITUTIONS.*

ISABEL M. DAVENPORT, M. D.,
Formerly Assistant Physician at Kankakee.

CHICAGO.

I would like to state before reading this paper that whatever I have said therein has been written without the slightest intention or wish to make odious comparison. Neither is there any political sentiment in it. I only wish to "render unto Cæsar that which is Cæsar's." I am and always have been a Republican, but I have often felt indignant and sorrowful at the persistent misunderstanding of Governor Altgeld's administration, so far, at least, as the charitable institutions were concerned, and which was typified at Kankakee.

Out of the immense activity which prevailed in that institution I have selected as my subject today "Garden Work for Women," because at that time it was my original contribution. So far as I have been able to learn, my garden was the first of its kind in a state institution for the insane in the United States. I am making no claim for wonderful results, but giving you a simple narrative in which I hope you may find something of interest.

In April, 1893, I received the appointment of resident physician and gynecologist to the Illinois Eastern Hospital for Insane at Kankakee, and it was my great privilege to serve from that time until February, 1898. I consider this as one of the greatest opportunities any alienist and neurologist could possibly have, because that hospital under that regime was as nearly

*Read before the Association of Alienists and Neurologists of America, August, 1917, and published in its report.

ideal as it has thus far been possible to secure in a state hospital for the insane in the United States, if not in the entire world.

Whenever I refer to my experience at Kankakee I always feel that people think I am detailing ancient history, and it is a long time since 1893, but the fact of the matter is this: The Illinois Eastern Hospital for the Insane was fully twenty years in advance of its time from 1893 to 1898, so in that light what was done there at that time is quite modern today.

I recall that some ten years or more after I left Kankakee, I visited one of the New York state institutions on a professional errand, which kept me there for a day or so, and I could not help feeling amused by the justifiable pride with which the "lady from the wilds of Illinois" was shown the innovations made in the hospital regime since Dr. Meyer had been the New York state psychiatrist. Evidently they had overlooked the fact that he had been the medical director at Kankakee ten or twelve years before, and their new methods had been installed much more elaborately and thoroughly at that hospital during his service there.

I simply mention this as an illustration of my previous statement that Kankakee was fully twenty years ahead of its time during the Altgeld administration under Drs. S. V. Clevenger and Clarke Gapen as superintendents.

Governor Altgeld had appointed the Board of Trustees and the superintendent (Dr. Clevenger) and had turned the hospital over to them, saying: "I am giving you full charge of one of the largest and best hospitals for the insane in the world. It is a splendid institution. All that I ask of you is that you improve it one hundred per cent in the next four years, and remember that you are here for these patients—not they for you. I do not wish politics to enter into your selection of the people who are to care for these helpless and unfortunate friends of ours. I want only the fitness and honesty of the employes to dictate your choice." And so Dr. Clevenger retained the entire supervisors' force, with three members of Dr. Dewey's staff, and these people, with many others, remained throughout the entire term. The other members of the medical staff (eleven in number) were selected because Dr. Clevenger considered them especially fitted for the work he had planned for them to do. Out

of a staff of fourteen physicians there were just two Democrats, and this is indicative of the policy during the administration of Dr. Clarke Gapen, who followed Dr. Clevenger six months later upon Dr. Clevenger's resignation because of ill health; but in that time Dr. Clevenger had appointed Dr. Adolf Meyer and most of the force, which at Governor Altgeld's request, were retained by Dr. Gapen, and he had also outlined much of the work which was carried on and enlarged upon by his successor.

Dr. Clarke Gapen was a giant in effort, system and discipline—a man of splendid physique and mentality, a competent and advanced medical man—and in addition to this he had the rare combination of being a thorough business manager and disciplinarian. And so the efforts of the management and the staff were energetically and conscientiously bended toward the establishment of the best possible methods for the cure and care of the inmates. In this they felt their greatest success lay in all the outdoor life and exercise it would be possible to obtain for them.

There was no difficulty in procuring outdoor work for the male patients. Dr. Gapen had a great love for the orderly and beautiful, and in order to keep the grass alive in the thin soil over lime rock, he had a day and a night force of attendants and patients constantly changing the sprinklers over the lawns. In the daytime a large force of patients was put to work running lawn mowers, pruning trees, planting flowers, making walks, picking up trash, making truck garden, herding cattle, building silos and filling them, installing and operating a fine pasteurizing plant, milking the cows and caring for the milk, building an ice and cold storage plant, remodeling the old morgue building into a fine circulating library and assembly rooms, building a new morgue, a new general dining room for employes, new hospitals for male and female patients, new amusement hall, etc.; but in all this there was no outdoor work for women. They had the sewing room, the kitchen, the wardwork, the painting, the embroidering, the dressmaking, rug weaving and carpet rag sewing, gymnasium, dancing, music—but in nearly all this the work was sedentary and indoors. I was very jealous of the men, because I heard in the daily staff meetings of all their outdoor activity, and of how much less hypnotic and sedative medicine was

being given and how some had recovered and many more were much improved, and I thought of my poor patients plodding along in those monotonous walking parties, scarcely speaking or being spoken to—not permitted to pick a dandelion or a clover blossom—and I said to myself, My women are going to have a garden.

We had already made the walking parties less monotonous by arranging them into picnics or hayrack rides, and by giving the women more freedom and interest generally. We dropped the old, set, regular businesslike walks for an all-day session on the lawn, and the women being provided with suitable instruments for the purpose, were put to digging up the dandelions which were all too plentiful for the beauty of the grass; but this employment became less as the dandelions disappeared, and finally, in the spring of 1896, I had the gardener prepare the ground for a garden just back of the cottage for convalescent patients, of which I was in charge. This garden consisted of forty small plots or beds four feet wide by twelve feet long, with two and a half feet of space between. I selected forty women from the convalescents' cottage for my first experiment. This cottage (No. 5) was the great boon to which all the women patients looked. It was the goal for which all strived, and no wonder! It was just finished and opened when I first took charge of it. A more beautiful home than this villa, with its broad porches, large, sunny sitting rooms, single sleeping rooms all beautifully furnished; with its bright rugs, comfortable chairs, a piano, dainty white curtains, prettily tinted walls hung with beautiful oil paintings and other pictures; its cheerful dining room with twelve round tables spread with clean, white linen and set with silver and tasty china, each table to seat five ladies; its unlocked doors, with perfect freedom to come and go; with two of the choicest attendants supervising the immaculate cleanliness which prevailed, would be rare anywhere and made No. 5 a reward for special effort and faithfulness in carrying out the doctors' treatment and directions.

The splendid reputation of the hospital which Dr. Dewey had previously established had been greatly enhanced by the reports of Dr. Adolf Meyer's appointment.

Dr. Meyer had come to Kankakee almost directly from the schools of Zurich, Vienna and

Paris, and, although a young man (less than thirty years of age), had acquired an enviable position, even then, as an authority on brain pathology. This, with Dr. Gapen's reputation for wonderful management and the exceptional care given the patients under his direction, had brought to the institution an unusual and refined class of patients, both men and women, but especially women, and while all were treated from the standpoint of their mental and physical condition, absolutely, and while No. 5 sheltered women from almost every class in life, there were at that time, among others on this ward, a relative of the owner of one of Chicago's leading daily papers, the daughter of a United States congressman, a sister of a member of the Illinois legislature, a banker's daughter and the wife of a university professor, and it was very difficult indeed to induce these women to do any work at all, much less garden work. However, after much unfavorable comment and demurring on their part, and after veiled indications on my part that it might be necessary for them to yield their places in the cottage to someone who would do garden work, and when told they might have everything they raised in their own garden bed, I finally succeeded in getting up considerable enthusiasm, and when all was ready they set to work with a will.

The gardener issued seeds and helped in advising them, but he was under strict orders from me not to do a stroke of work for them.

They chose to plant the same vegetables in each bed—radishes, lettuce, cucumbers, tomatoes, peas and string beans were the vegetables chosen. Each bed had a border of low-growing flowers, and oh! if you could have heard the conversation on how far apart they planted the seeds and how often they watered them, etc., and then when the little green sprigs began to show they were full of interest and excitement as to whether they were weeds or something else. The work of weeding and hoeing and raking which went on, and the competition between them as to the orderliness and beauty of each plot, was an early indication of the immense interest this garden created. Then the patients from the other wards began to watch the garden and to ask the other members of the staff and me why they couldn't have a garden.

When the first mess of peas ripened I gave

two of the ladies who were not garden workers, but who were very proud of their talents as cooks, permission to go to a nearby kitchen and prepare them. When all was ready I was invited to take dinner with the ladies at No. 5. My friends, I give you my word, I was never happier than when I saw that dining room with every table decorated with flowers from our garden, and noted the relish and pride with which all partook of that dinner. And this interest and enjoyment increased as the summer advanced.

My garden being voted a success, Dr. Gapen gave me three acres the following spring, and we were able to put several hundred women at outdoor work. This garden differed in having all vegetables in the beds, the flowers being planted as a hedge or border around the entire three acres—sweet peas on the outer edge and lower growing flowers in succeeding rows. The patients from each ward worked together gathering the crop and carrying it to the wards in large baskets, where some of the patients prepared the vegetables for cooking, while others made beautiful bouquets of the flowers and carried them to the sick wards, to the men's wards or presented them to different officers, and arranged them for their own tables and rooms. It was a cozy, busy sight to see them gathered on the porches of the cottages preparing the vegetables and arranging the flowers. I found the garden patients happier by day and sleeping better by night. In fact, the night medicine tray, which was a regular thing when we went there, was finally abolished never to return during our stay at Kankakee.

There were several things which impressed me in this experiment:

1. The value of the sense of possession by allowing each patient to care for a certain plot of ground, and having the disposition of what she raised thereon.

2. Competition created orderliness, carefulness and pride.

3. The common interest created something to talk about and to think of.

4. The picking and arrangement of the flowers was the greatest delight. Even the dementeds would stuff the bosoms of their dresses with flowers instead of trash, and the joy of making bouquets of white or lavender or pink sweet peas as large as a cabbage, and then carrying them over to the infirmary, the old ladies'

cottage, to the doctors' offices, or wherever it might be, took them out of themselves, made them less discontented, less restless and more kindly to others.

5. There seemed to be no special classification of patients to whom the garden work appealed. Of course, there were many who could not be induced to go to the garden, but we were greatly surprised often by patients who seemed to us positively unsuited mentally, who took great interest in it and worked faithfully. We picked the manic-depressive and the dementia præcox cases especially, and found it well suited to their psychoses, but the selection was generally made from a clinical standpoint. The apathetic patient, the restless patient, the delusional patient, the epileptic and the demented patients all took more or less interest in the garden, and received more or less benefit. The paranoiac was less inclined to take part, but many of them loved to work with the flowers.

In fact, aside from the greatest of all (the exercise in the open) the garden work for women at Kankakee proved of great benefit in many respects.

I sent home a larger number of patients from my convalescent's cottage the two summers of the garden work than at any other time. Some remained well and more returned, but I was able to give a goodly number of women the pleasure of a visit into the outer world who had never before been able to go.

I can see a great future in floriculture, especially for women, in all public institutions, whether for the insane or for others. I would plant perennials, such as the old-fashioned garden flowers—lady slippers, bachelor's buttons, blue bells, etc. I would have the seeds gathered, dried, shelled and put up in bright colored paper packages for the next season's planting, or for the market. I would have a greenhouse for early spring planting and a hothouse for winter plants. I would even go into the nursery and the transplanting work.

Floriculture is especially suitable for women—they love flowers. They are refining and uplifting, and when the inmates are not apt to be permanent, the vocation of a trained florist is open to them as a means of earning a living when they leave the institution. I have urged this as a plan for the proposed Chicago Shelter

House for Women (if the politicians ever let us build it), but at all events, let us increase in every conceivable manner outdoor work for women, which is charming, interesting, healthful and elevating.

As I have said, so far as I know, my little garden was the first garden for women in a public institution for insane in this country. Of course there are a number now, but if I could have the building of a hospital for insane or any other institution for women. I would make it an all-cottage system, each cottage a unit, with its own kitchen and dining room. It should have its own garden, and the inmates of the cottage should have the preparation, cooking and eating of the vegetables and the arrangement of the flowers after they had raised them.

1248 Wilson avenue.

COMPULSORY HEALTH INSURANCE.

LEROY PHILIP KUHN, M. D.

Vice-President National Safety Council. Attending Surgeon to the American Hospital. Attending Surgeon to Fort Dearborn Hospital.

CHICAGO.

To distribute the burden of physical disability we will have to devise some plan whereby this social problem "can be equitably looked after without placing so much responsibility upon the State and the nation generally. Dr. Chas. H. Mayo, President of the American Medical Association, stated in his address before the Association in June, 1917, that "the State does not exist for the good of the individual, but the individual exists for the good of the State."

The individual created or made the State possible; naturally the State is directed by the individual in a country like the United States. Now when the State assumes all authority and determines itself master of one who make it possible, then we have an autocracy. This monstrosity called "Compulsory Health Insurance" is an autocracy. It has not been a success in any country where it has enjoyed a thorough trial; it is un-American and not according to the spirit of the free institutions in the United States.

America has been a slightly copying country in a great many respects. Because one foreign nation adopted compulsory insurance and by her actions forced other countries into a similar plan

is no reason at all why we in all our spirit of freedom and patriotism should adopt something that is opposed to our ideas of democracy, and which will by its methods of operation force folks to listen to and obey autocracy. It is a human characteristic for a class of people or a nation to become suddenly seized with a desire to change present conditions, without first knowing even in a remote way what will be the deleterious effects. We have the benefit in this country of profiting by another country's experience. We are informed by those who have tested compulsory sickness insurance that it proved a dismal failure, yet we are beginning to go mad in its pursuit.

I am heartily in accord with state appropriations for public health, preventive measures, county health boards, city health authorities and even state universities for the study of social health problems by a mill tax levy; but when the State, employer and the medical profession are equally used to carry the burden of those unable to provide for themselves, and are directed to give time and money for this purpose, then as a member of one of these groups, I enjoy the privilege of opposing any such scheme that will by its operation force the medical profession to carry the greatest load of all without adequate compensation. This may seem like a selfish motive, but how many give more to charity than the general practitioner?

At present our county and state hospitals, dispensaries and clinics are taking care of the indigent poor, giving them the highest grade of medical service willingly, without compensation other than for teaching purposes and the honor attached to such service. Now compulsory insurance would dispense with our county institutions, which are a truly American idea, and direct the employer, state and medical profession to take care of 85 per cent of the people, 75 per cent of whom prefer looking after their own illnesses.

Since the adoption of the Workmen's Compensation Act April 1, 1912, I have carefully studied health insurance problems, and during the past year have given a great deal of time to the subject. During this time I have listened to many arguments by representatives of the American Federation of Labor, who are decid-

edly against any such health insurance laws as England and Germany have at the present time, while social reformers, welfare workers and the American Association of Labor Legislation, are heartily in favor of the present draft for Health Insurance Law.

Employers have not been anxious for any kind of Legislation similar to health insurance laws of other countries, but they have come to the realization of the fact, that the health of the employe is the basis of labor turnover, and that public health is the foundation on which reposes the happiness of the people and the power of the country.

The one party vitally interested is the medical profession. Without an efficient medical service the whole plan of sickness insurance would be a failure. Nineteen-twentieths of the medical profession is opposed to the present drafts of different bills for legislation. We are opposed because:

First: The whole propaganda is un-American, suggesting the iron hand.

Second: The wages paid are adequate for the needs of the family.

Third: We have better health laws and agencies than any other country.

Fourth: We are not yet ready to join the politicians and work for so much per day, or "brokering" our services to an insurance fund.

Fifth: The plan is not for the best interests of all the people.

Honorable Francis Neilson, Ex-member of the British Parliament, a great student of political economy, speaking before the Chicago Medical Society, December, 1916, said that social insurance in England is a dismal failure; that it was copied after the German system, and that Germany's system is a failure. In France the better element of opinion is against compulsory insurance.

When Lloyd George was framing his bill for Compulsory Health Insurance he listened to arguments from sociologists, employers, officers of labor unions, employes, legislators, representatives of "friendly societies," etc., etc., but never until the bill was finished did he consult with members of the British Medical Association. An issue of such vital importance to the medical profession, should naturally interest and include the best thought and talent of the medical pro-

fession. If our conclusions are not incorporated in the findings of the committee, then that committee will some day come to the realization of the fact that they have nothing but mediocre medical talent and humanity will pay the cost.

When a profession is put on a business basis, that minute competition is destroyed and science suffers. Little advance has been made in Germany during the past fifteen years, because there is nothing but a monthly salary for professional men. Our well equipped medical schools would soon have empty class rooms. Is any young man going to invest \$5,000 to \$6,000 and six years time in preparation, then go into practice at \$90 or \$100 a month, visiting forty to sixty patients daily?

If the present "tentative drafts" are ever adopted and enacted into a law, the practice of medicine will be completely revolutionized so that the present individual physician will become obsolete. The free choice of a physician by the patient will be eliminated. This has been one of the chief objections to our present compensation law. However, if someone had not thought of this important detail in the compensation law, I am sure insurance companies would have to increase premiums 20 to 30 per cent and it would be indirectly up to the employer to pay the difference. A religious adviser is needed in spiritual matters, a lawyer in legal affairs, a successful business man in business matters. Naturally the medical adviser will always hold his place in the American family. The United States is a nation of families, and so long as the family life remains the predominant feature of our social organization, just so long will the family doctor be a necessity.

From a political standpoint, Compulsory Health Insurance is a veritable harvest of gold. The politician is patiently waiting for the sociologist to complete his utilitarian duties, relative to the early publicity and the tremendous necessity of successfully interesting the common people in a movement which is not for their benefit.

If 70 per cent of the voting population of the State of Illinois are joined together and controlled by a society or an insurance fund, I am of the opinion the rest of the State would be dominated and compelled to yield to a "political boss" representing the compulsory insurance or-

ganization. In Chicago we have about 433,500 employes who would come within the ruling of the present draft law. This would mean 1,200 or more carrier associations with just as many political "bosses" to administer this huge insurance fund. Smaller cities of the State would have to establish political administrators and pay them from taxes especially levied for this fund. There are approximately 2,450,000 wage-earners in Illinois. This would require about 1,180 associations especially organized into a political machine, which would employ 21,000 full or part-pay helpers. When a tax payer figures how much his tax will be, he can, if he is an employer, add 40 per cent for the cost of sickness insurance for his employes. In Illinois this figures about \$40,000,000. I don't believe we are quite ready for an increase in the cost of commodities of 35 or 40 per cent in order to meet this demand. At \$24 per capita, a year, and I understand this is the lowest figure given for Illinois sickness insurance in the annual bill, for our 2,400,000 workers of all kinds would be \$57,600,000. Forty per cent of this, or \$23,040,000, is to be paid by the employers, \$27,440,000 would have to be paid by the employes. \$11,520,000 to be paid by the State treasury. According to these figures, our present direct state tax would be nearly doubled, or an increase of 83 per cent.

The *American Labor Legislation Review* (pages 255 and 256) states that if the State can handle this insurance, it will afford rich opportunities for political favoritism and log-rolling. As I understand the present draft law, it is entirely legislating for a limited class—those receiving \$1,200 per annum who are chiefly laborers; why this class legislation in a democracy? Will it not revolutionize this class into folks incapable of caring for themselves, and eventually make them over into irresponsible people? If Compulsory Health Insurance is right and sound, why not have it for everybody? Let the man who is receiving \$1,225 have the benefit the same as the one who receives \$1,190. All of our people should have equal rights and privileges under the law. Do we wish to establish a bureaucratic political organization to supervise and control the wage-earner and his family? This will necessitate a direct tax on all wages, which may reach 5 per cent or more.

Autocracy will strengthen the state, but de-vitalize the individual.

Malingering. The "great humbug," which will always embarrass the honest physician and which he will have to combat in almost every patient is the question of "Malingering." If the physician refuses to conform to the dishonest, unscrupulous requests of the patient, he will be forced out of insurance work. On the other hand, if the physician will lengthen the period of disability, he will become popular and gain financially. One successful case of malingering stimulates the growth of another, and when a member of the medical profession yields to the temptation of furthering this evil practice, he deserves more severe condemnation than the malingerer.

With the present Workmen's Compensation Acts it is almost impossible to convince Industrial Boards when we have a clear case of malingering with x-ray plates and expert testimony. The family physician will give his testimony (only having seen the patient once or twice during the progress of recovery) then the surgeon who has had charge of employe since date of injury and through the entire healing process and knows very well what the employe is able to do and how soon he can resume work, will give his testimony, and the opinions are about as near as Rhode Island and Texas. Now, why is it there is such a difference of opinion? Each physician takes oath that he will speak the "truth, the whole truth and nothing but the truth, so help me God." Is it because the surgeon wishes to send a sick man back to work before he has recovered? Or because he is anxious to help the employer save a little money, by having employe resume work earlier than he should? No. I don't believe there is an industrial surgeon in Chicago who would knowingly be guilty of either offense. He has nothing to gain either way. Quite the contrary with the family physician. The employe places all the confidence in him; he has known him for years; enjoys his confidence. He may be a general practitioner, never having done surgery, yet he is called to the rescue of the employe at the moment of settlement, when he is not in a position at all to decide what should be the period of disability. The family physician fully understands unless he does favor the employe, he will in most in-

stances not continue to be the family physician.

How then can the Industrial Board reach a conclusion when there is such a variance of opinion? Indeed, I would not care to be the deciding judge; so long as Rhode Island and Texas remain such a distance from each other. Often a third impartial medical opinion is brought in, but always separate from the other two. This, of course, is not right, the three should examine, hold conference and bring in a definite conclusion. Failing to agree, they should all be discharged and the patient sent to a specialist appointed by the Board and paid for by employer and employe jointly.

If then we have all this trouble with our present Compensation Act, what will happen if we ever are compelled to submit to sickness insurance? England spends as much money investigating and answering medical calls which are entirely unnecessary, as one-third of the total cost of all worthy patients. In Germany two-fifths of calls made were not because the patient needed medical attention, but because the patient knew he did not have to pay from his own resources.

If the patient is allowed to choose his own physician from the panel list, he will always choose the "easy doctor" because he knows he can obtain large sick benefits. The conscientious medical man will suffer, his practice will eventually go to the doctor who makes out health certificates for longer periods of disability. One can really see how health insurance cannot exist without physicians. We are the hub of the wheel. It is proposed in our present draft law that special medical officer have charge of the fund and each troublesome case come before him for adjustment.

The medical officer would have to increase his activities, and employ many helpers, on account of the fact he would receive an unlimited number of complaints. He is not in a position to pass on the evidence submitted to him about a sick patient, "without having seen the case during the illness" any more than our present medical director of the Industrial Board is capable of giving an opinion on an accident case that has recovered from injury without seeing the patient during the healing process. Medicine is not an exact science and sick folks are not alike. Disease affects patients in many different ways and

the prognosis may be longer or shorter, depending on the individual. We all know that efficient diagnosis and treatment require specialization, that no one medical man can cover the field of medicine or even one-tenth part of it and do it justice. The solution of the problem is institutional work, and this is the medical service of the future. How can we hope to get anywhere with carrier associations and political bosses, as means to develop hospital and research facilities.

Everywhere an underpaid physician giving inadequate and hurried service is held in contempt by his patients and by his profession. Many arguments are advanced that Germany has decreased amount of sickness since health laws are in effect. In cities of Germany, in 1880, the death rate from tuberculosis of the lungs per 10,000 population was 34.6 per cent. This has decreased until in 1909 it was 17.9 per cent. In American cities at the same time, in 1880 the death rate from tuberculosis of the lungs was 32.1 per cent and had diminished in 1909 to 17.5 per cent. We are doing this without health insurance.

During the past year fourteen (14) states have introduced a definite health insurance bill, approximately the same bill as reported in *Journal A. M. A.*, June 9, 1917. The States considering these tentative drafts of this law are Arizona, Connecticut, Maine, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Utah and Wisconsin. The *Boston Journal of Efficiency* believes the "great question" of medical aid of social insurance should be taken out and abolish the problem. Remove the proposal to furnish medical care as a part of the insured benefit at least until we know more. We cannot sit on the seashore and wait for the rising tide to stop, we will get wet feet if we procrastinate.

When one reviews this subject carefully, and finds that the demand for Compulsory Health Insurance legislation has not come from representatives of labor, nor from representatives of employers, but chiefly from those who are not the representatives of either party; then one can readily conclude most of the arguments for health insurance are socialistic fallacies. If this class of folks need a law for health why not have

a compulsory law for clothing, feeding, and providing employment for the same class, because their health depends as much on food, clothing and housing, as on medical attention? If any, or all of the present draft of the law is adopted we may expect some of the following results, namely:

1. It would destroy the American spirit of independence.

2. Police power would be required to enforce the law.

3. Socialism would surely come.

4. It would produce class legislation for 30 per cent of the people and would legislate principally against the medical profession because the doctors would be forced to accept something they never wanted.

5. It would furnish political employment for 230,000 politicians.

6. There would necessarily have to be carrier funds, of \$175,000,000 annually, which would be controlled by politicians.

7. The state would collect a tax of \$5 in order to effect a saving of \$1.

8. No one but allopathic physicians could serve as health physicians.

9. It would interfere with some of our present day "isms" because it would force medical examination, and compel medical treatment of Christian Scientists.

10. The initials C. H. I. may stand for Compulsory Health Insurance in the present draft law, but if this law is ever adopted, they would then stand for "compulsory health injustice" to employe, employer and the medical profession.

The solution then of this great problem is the knowledge medical men possess, and the opportunity given to use that knowledge. Manufacturers are beginning to ask for us, and I am sorry to say, medical men do not interest themselves much with industrial matters. This field of medicine is a new specialty and requires a great deal of time, with preparation, especially having to do with association of employe to his home and to his employer. In other words the group system in medicine will naturally bring about many of the needed changes.

If I were to write my ideas in the form of a prescription for these issues, I would write the prescription in some such way as this:

For the American Association of Labor Legislation; Prof. Irving Fisher, Yale University, president; and Dr. I. M. Rubinow, director general and statistician of Compulsory Health Insurance, New York, sociologists, welfare workers, et al.

R A thorough purging of socialism and class legislation.

Add to this, appreciation of our medical responsibility toward the workman and his employer.

Dilute sufficiently with preventive medicine; the group system of diagnosis made free, to the indigent poor or the industrial worker with a large family.

Mix, and extend our health departments so that sputum examinations, Widal tests, diphtheria cultures, Wassermann tests, x-ray and all other necessary laboratory examinations are made free to the worthy industrial worker.

Label, Elixir of U. S. A. To be taken in large doses, often repeated until the full physiological effect is obtained.

I hesitate to sign such prescription. Nor shall I sign it with a mere name—but instead of a signature, you will find written the names of employe, employer and the medical profession.

3058 Wilson avenue.

DISCUSSION.

Dr. C. R. G. Forrester: I have listened to Dr. Kuhn's paper with considerable interest and I have just jotted down some points which I want to bring out that will be of interest to all of us. I shall not deal in figures, for I cannot add such large figures, but I want to discuss some points that I do feel, that we as physicians must consider in the next few years to come. I am very much afraid that some of us men who are downtown entirely learn a good deal more of what is going on about this "Compulsory Health Insurance" than most of the members in general practice, who are busy with their own affairs, and we must say candidly are not interested in insurance. The individual doctor of the outskirts will raise a holler when his toes are pinched, but if we all get together and think of a plan whereby we can protect ourselves, then we can do something, but the greatest difficulty that I find in talking with the practitioner is lack of cohesiveness—there is no co-operation—they do a lot of talking but that is all.

Now, what I want to bring to the minds of you gentlemen is a point discussed in this paper on Compulsory Health Insurance in England, which has existed as a failure. I knew two doctors in

England who told me that Compulsory Insurance is the most distasteful thing they have to contend with. They do not like it and none of them would do it, except that they are forced to do it. They find that it puts a burden on them that they did not think of. They are called upon to do unheard of duties for a small stipend, a remuneration so small that we cannot even imagine it over here.

Now, Dr. Kuhn brings up another discussion in reference to charity by the practitioner. I want to say right here that there is not a profession in the world that indulges in so much charity as the doctor does, without any thanks or compensation. They do for the people and by the people without any solicitation, and even when they are solicited they will often leave their work and go and take care of that patient without any reward, and here on top of this they are talking of compulsory insurance. To avoid this, which we must, we need CO-OPERATION.

Another point of interest is that of brokering our services. We should not be called upon to do this. If we want to do an act of charity, all right, but we should not be called upon to do it. We do not want to broker our services, and this is what "Compulsory Health Insurance" would mean.

Dr. Kuhn brings up another question—legislation—and I want to say right here that this is the most important topic that he has discussed tonight. We are all so busy in our individual affairs that we fail to realize what is going on in the political and legal centers in our different states. It would be the easiest thing in the world if we would co-operate and go to Springfield and keep our eyes on what is going on. It would not be a waste of time. Out of the funds of the different medical societies we could appoint an attorney of our own, who would go to Springfield and watch what is going on and protect our interests. Nobody will protect them if we do not. They will take advantage of us men as long as we let them, but we must get together.

Another discussion is that of the affixed salary for the physician which would come with the enforcement of "Compulsory Health Insurance." You know that no man is going to put forth the same amount of effort on the work that he does for 50c that he would for \$2.00; or give the same attention to an operation for \$25.00 that he would for \$75.00, but this is going to come if we do not watch ourselves.

Now, another question came up to my mind while Dr. Kuhn was discussing his paper. If this compulsory insurance should reach a point of active recognition, what is going to happen to our clinics that are held in our large hospitals, where so much interesting work in surgery is done? The physicians and surgeons in their clinics today are doing more for the poor than "Compulsory Health Insurance" can do.

If "Compulsory Health Insurance" comes in force I want to impress upon your minds that the

doctor will be told what to do and at what price, and he will have no choice in the matter. The importance of preventing such a state of affairs I cannot put too forcibly to you, and I emphatically plead for co-operation. We must not talk; we must organize, systematically, and know what is going on.

Dr. George L. Apfelbach: Labor unions are against health insurance as endorsed by the present advocates of such. There are many men in the labor movement who recognize the value of health insurance if it were handled by a strong central government.

It seems to me that inasmuch as a nation we are waging a war against autocracy, it would be traitorous on the part of American individuals to even advocate health insurance, as it is entirely contrary to our ideas of democracy, and is absolutely part and parcel of the autocratic German system of government.

I believe that this war will put the American citizenry under great obligations to the medical profession, and that the honest, non-foreflushing American will support the medical profession against being made a proletariat either under the jurisdiction of private corporate insurance interests or in the service of a political machine.

If such is, however, the outlook in spite of the present economic situation, I would again feel it necessary to plead with the medical profession to join hands with the labor organizations and with the agricultural classes in a fight against health insurance.

ARE OUR PRESENT METHODS OF COMBATING PULMONARY TUBERCULOSIS EQUAL TO THE TASK?*

JOHN L. JACQUE, M. D.

CHICAGO.

Pulmonary tuberculosis, "the captain of the man of Death," as Bunyan calls it, has been occupying a most conspicuous place in the minds of the medical profession for the last three decades. The discovery of the fact that this disease is communicable, gave a great impetus to the work of prevention. Indeed, the tuberculosis dispensaries, the nurses' visits to the houses of the afflicted, and the educational campaigns have all served this great purpose.

Pulmonary tuberculosis being one of the most widespread of diseases that the internist as well as the general practitioner has to deal with should, of course, be combated by the united efforts of all of us. That we may render efficient service in this work we naturally have to keep

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ourselves informed about the various phases of this question, medical as well as sociological, and then to follow a definite and harmonious plan of work. But this can be formulated only by a discussion in which the profession at large participates. Our object here is the same that we generally try to attain through the well known routine of our work. 1. Cure the afflicted. 2. Prevent the spread of diseases. But is pulmonary tuberculosis curable? Is it preventable?

Pulmonary tuberculosis is curable and, paradoxical as it may seem, the proof is furnished more convincingly by the *dead* than by the *living*. The areas of healed pulmonary tuberculosis that are being constantly discovered on post mortem examinations of individuals who died from other causes, demonstrate beyond a doubt that the human body is supplied with the power of vanquishing the tubercle bacillus. The processes through which this is accomplished are, however, absolutely unknown to us. But since those individuals studied in post-mortem examinations had pulmonary tuberculosis without anybody suspecting it, and recovered without anybody interfering with it, we naturally want to know whether recoveries take place among patients who *have* been subjected to treatment, and to what extent those recoveries could be directly attributed to our efforts.

It is a self-evident truth that before we report cures from any disease, an indisputable diagnosis must be made. In view of the fact that it is generally conceded that recovery is most likely to take place in the incipient stage, whatever that may be, and inasmuch as for the diagnosis of those cases the tubercle bacillus is not essential, it would be reasonable to think that at least a certain number of those cases that recovered might not have been tuberculous at all, but that they presented a clinical picture that made an error in diagnosis excusable but, nevertheless, their inclusion among the recovered tubercular cases unjustifiable. Without reflecting upon the keenness of perception and individual aptitude of some men that might enable them to reach a high degree of efficiency in the interpretation of the well known and also of the finer diagnostic points that are perceptible only to the expert, errors in diagnosis we must admit may still be committed.

During the first year of the opening of the

Radcliff Infirmary, according to Osler,¹ out of 580 cases all sent by physicians with the diagnosis of pulmonary tuberculosis 243 were found not to be tuberculous at all. But this fact some will say simply emphasizes the deficiency in the diagnostic ability of the general practitioner. Commenting upon the fact just mentioned Osler² says: "The active crusade against the disease has made both the public and the profession more alert and we have, as so often happens, gone to an extreme and one is apt to see early tuberculosis in trivial complaints." Loeffler³ says that physical signs alone are not to be relied upon at all. Hamman⁴ in reviewing his own ten years of work at the Phipps Dispensary, during which time physical signs, clinical symptoms, histories, roentgenographies, and the results of tuberculin tests have been carefully studied, comes to discouraging conclusions in regard to early diagnosis of pulmonary tuberculosis. He has applied the tuberculin test to 1,000 cases and later endeavored to trace as many cases as it was possible. Here are some of the results: Of 258 cases who reacted to the tuberculin test and seen between three and four years later, 176 were perfectly well, 57 were unimproved; that is, they were still suffering with the symptoms they had originally complained of and who were suspected of having pulmonary phthisis; only 16 became frankly tuberculous. As to the physical signs, he found extensive changes in the lungs of perfectly normal individuals. He studied the chests of *perfectly healthy students and nurses* and discovered *abnormal* physical signs, and those findings were corroborated by roentgenography. After finding that not one of the cherished hopes of early diagnosis that were rapidly taking root in the minds of the profession had been realized, he makes the following statement: "The long time of work has shattered agreeable delusions and robbed us of fond hopes and as the evidence we slowly amassed pulled us from our first position we followed unwillingly to the path where it led."

Janeway⁵ says: "I have been in a position for a number of years to arrive at these judgments of which Dr. Hamman speaks, and I am in complete accord with his point of view."

H. M. King of the Loomis Sanatorium says: "I think it is true that not a few cases remain under observation and treatment for months

classified as positively tuberculous in which the one unequivocal diagnostic factor is lacking: namely, the presence of the tubercle bacillus in some of the excretions and among those cases doubtless there are some, perhaps many, which, *if the truth were known*, are not tuberculous at all." Many similar opinions could be quoted, but enough! If doubts about the reliability of an early diagnosis are expressed by such men as Osler, Hamman, Janeway and King, the claims of others to the contrary must be subjected to careful scrutiny. Meanwhile, we are justified in assuming that the number of recoveries made by consumptive patients will *decrease* in direct proportion to our ability to differentiate between the doubtful and frank tubercular cases, and to our facilities for keeping ourselves informed about the further developments with those cases after they were discharged as cured.

Much as we may differ in regard to the dependability upon the various diagnostic procedures for the early recognition of pulmonary tuberculosis, much as we may debate upon the question of its curability, one phase of the tuberculosis problem enjoys at the present time the unanimity of the medical profession. *That is, the question of prevention.* Pulmonary tuberculosis is a preventable disease. Pulmonary tuberculosis can be more easily prevented than cured, say Bandelier and Roepke.⁷ But in order to prevent it we would have to apply here all the rules governing the work of prevention in all other contagious diseases; that is, thorough isolation. As the object we seek to accomplish by isolating the consumptive is practically reached the moment we succeed in prevailing upon the patient not to cough into the air, but to shield his mouth with some substance—a piece of paper, for instance, and also to expectorate into a receptacle that could be destroyed, it would appear theoretically that the plan of strict hospitalization is not at all indispensable. Indeed, we would have to try the method of home treatment first. It is comparatively easy to instruct the patient not to expectorate on the floor, and not to cough in people's faces. The tuberculosis dispensaries correlated with the nurses' visits to the houses of the afflicted undoubtedly have resulted in inducing the patients and friends to resort to the precautionary measures just mentioned.

But, inasmuch as the goal we are endeavoring to reach is the complete annihilation of pulmonary tuberculosis, and converting it from a terrible menace to a historical curiosity, we ask ourselves whether or not our present methods of combating the disease are conducive to the eventual consummation of our aims. Our answer to this question must be based upon the analysis of the psychological condition of the human being when he is expected to carry on precautionary measures for an almost interminably long time. The patients can be roughly divided into three classes: To the first belongs the ignorant patient who yields blindly to the instruction given to him by the nurse or doctor, but who on account of his inability to conceive of a danger that is not apparent to him gradually begins to disobey orders, at first secretly and then openly, in defiance of the nurse or doctors, defining their mentality in highly uncomplimentary terms. To the second class belong the more or less intelligent people who carry out the instructions with a willingness that indicates a realization of their importance. But they too become intolerant to the constant necessity of following rigid rules laid down for them. The male patient often rebels against the restrictions put upon conjugal life. The patient's friends, also rendered indifferent by constant familiarity with the dangers of contagion, sustain them in their revolt.

Once this stage has been reached—and it invariably is reached—all the good work has been simply wasted. There are a few patients of a higher degree of intelligence who follow the rules faithfully until they reach a stage of physical exhaustion that makes them incapable of the slightest attempt to exercise the prescribed precautions, and who are compelled to expectorate anywhere, with the sole desire to free themselves of the masses of the muco-pus that clings to their throats during the last days of their wretched lives. When we take into consideration the great number of consumptives who, after searching in vain to regain their health by visiting the various health resorts, return home to spend the remaining days of their lives and die after their families have been exposed to the dangers of infection, we can see how such unfortunates leave behind them enough of tubercular material and

often also infected members of the family to insure the perpetuation of the disease.

In the face of these daily tragical occurrences is there any justification for the cheerful assumption that the deliverance of the human race from this dreadful disease is at hand?

The so-called dispensary treatment and home isolation not being conducive to the eventual eradication of pulmonary tuberculosis, there remains only one expediency and that is hospitalization of all tubercular cases. Koch,⁸ in his last lecture at the Academy of Science, April 7, 1910, speaking about the reduction in the death rate from pulmonary tuberculosis that has taken place during twenty-eight years, analyzing its causes, with a view of utilizing them for the further curtailment of the ravages of this disease, thinks that the diminished mortality was caused by improvement in the housing conditions of the poor, especially the sleeping rooms, and to the isolation of the sick in properly constructed institutions. *He recommends the continuation and extension of the work of isolation as the principal factor leading toward the best results.* Rabnow⁹ says that in order to make the struggle with tuberculosis effectual, isolation of the sick is indispensable. Leube¹⁰ says that the only effectual way to combat this disease is to separate the consumptive from his family. I bring forward the names of these famous men because there are still some who believe that home and dispensary treatment can accomplish the desired ends.

It is true, of course, that the moment we decide upon hospitalization of all consumptives a problem of most gigantic dimensions opens before us. The moment we take a consumptive into our care he becomes a problem for the rest of his lifetime, for nobody can be certain of his complete recovery. This fact is well illustrated by the special lexicon devised for the definition of the state of his health upon leaving the sanitarium. "Apparently cured, apparently arrested, quiescent, improved." Those are the statements written on the records, demonstrating the hesitation of the medical men in pronouncing the patient unconditionally cured, and incidentally the doctor's honesty in being frank to acknowledge his uncertainty about the outcome of the case. If we are not certain about his recovery he is naturally an everlasting problem to us.

Many of these patients have families that depend upon their support. If we send him to work, the disease might become active again; if he remains idle, then he becomes a burden upon charity, the demand for which always exceeds the supply.

In order to make isolation complete and effectual, our activities must not be limited to the advanced cases alone. Analogous to other contagious diseases, the milder cases might become a greater menace than the advanced, for the latter are forced to remain indoors, so that the supply of victims is restricted to those who are forced to come in contact with them, while the milder cases mingle freely with other people, exhaling or coughing out sprays that might be impregnated with tubercle bacilli and thus endanger whole communities. Furthermore, as Rabnow⁹ justly remarks, many of the milder cases, especially among young unmarried women, work in places where foods, like cakes and candies, are being prepared. The danger this brings to the people is quite obvious.

The undiagnosed or doubtful cases present a problem that is not very easy to solve. By analogy with other contagious diseases we should isolate doubtful cases until a diagnosis is made. The children of the consumptive would have to be taken care of in an energetic manner in order to avert a possible outbreak of tuberculosis in them. The colossal difficulties that will be met with once the practice of isolation is to assume the requisite proportions are not to be overlooked. However, we must decide first of all, whether those difficulties can be overcome, at least, in theory, and use every effort to put our theories into practice, or if those difficulties are insurmountable to submit to our fate.

The work that has already been done and the results obtained would seem to justify our hopes for still greater results in the future, if we only persist in it. If we undertake to carry out our program of isolation, including in this all of the tuberculous cases, the advanced as well as the mild cases, and at the same time find some effective measure for handling the doubtful cases, we see immediately the need of a great expenditure of money. Can we afford it? I would answer categorically and unhesitatingly, yes—once the people are convinced of the national significance of this question. Just let us take a glimpse across the Atlantic, where sums stag-

gering human imagination have been, and are, being destroyed, and the people find means of raising those stupendous sums. Now we are being drawn into the vortex ourselves and have appropriated \$7,000,000,000 to start with. With the expenditure of a fraction of this money, pulmonary tuberculosis could be stamped from the face of the earth. The raising of the enormous sums of money was made possible because entire nations put their shoulders to the work. In times of peace there is no question of greater importance than that of pulmonary tuberculosis, a disease that has been killing hundreds of thousands of young people every year, and we know now that those people have been dying from a wholly preventable disease. The fight with pulmonary tuberculosis must be carried on by co-ordination of all the forces of organized society, the small local organizations doing their utmost with the central government assisting with its tremendous resources. If all the communities that build a town hall and a police court and a church would at the same time provide a suitable place for their consumptive population—and they would do it if we kept on pointing out to them the great function of life saving that those places would serve—if every community that hires a minister to preach to it how to safeguard the soul would hire a doctor—and to the great credit of the medical profession, doctors would do it gratis—to teach them how to protect themselves from this terrible disease, the question of pulmonary tuberculosis would be well on the way towards permanent solution.

The whole problem is at the present time complicated with the question of the disposition of the patients returning from the sanitarium with an ambiguous label attached to them. You want them to do some useful work; they will naturally be put to work at the trade in which they had acquired skill by previous experience; *and so you send them back to the very places which had been contributing factors to the contraction of the disease, and from which you have found it necessary to send them to be cured.* Those who are unable to work are thrown upon the mercies of social service, county agents, etc. I have recently heard a very earnest and honest social worker telling naïvely that the county agent is making an extra allowance to the consumptive; while the usual sum allowed by this institution

is \$4.00 per family per month, the consumptive is getting \$4.75. Think of this seventy-five cents per month extra! Doesn't that sound a little like opposing a sixteen-inch howitzer with a pop-gun? By concerted and well directed efforts in which all organized governments, local as well as general, participated, patients could be assisted to remain in the country, engage in farming, *produce foodstuffs instead of merchandise, and not only become self-supporting, but produce a surplus of food that could be used for the support of those tuberculous cases that are unable to work.* We have in this country a great abundance of good, but idle land; about 2,000,000 acres in the State of New York alone, about 1,000,000 in our own state. If agricultural implements as well as *instruction would be furnished the improved consumptive,* his life would undoubtedly be prolonged, the danger of infecting others reduced to a minimum and the burden resting upon organized charity very greatly relieved.

That all the advanced cases should be kept in institutions all the time is not being disputed; how to induce them to go to sanitariums and remain there will undoubtedly be a difficult problem to solve. But we have sufficient time for the solution of this question. Let us first of all have accommodations for all of them; just now we have not. If we impress the consumptive in the advanced stage that we are not sending him to be buried alive, as some have expressed themselves, but on the contrary we are sending him for treatment; if we make his life as enjoyable as possible, showing him kindness and consideration, he will most probably clamor for admission instead of resisting it. For dealing with the unreasonably obdurate, appropriate laws will have to be enacted. If we had places in the country where the doubtful cases could be sent and put under medical supervision, our ability to distinguish between the tubercular and non-tubercular cases would be greatly increased. A general survey of the work-shops and tenement houses, that is, of all those places where people live huddled together under poor hygienic conditions, would then be of enormous value. For the moment that we found an individual in poor health that justified a suspicion of pulmonary tuberculosis, he would be removed from the unhealthy environments and sent to the country

for both recuperation and observation. Within a reasonable time we should probably be able to decide whether we are dealing with a case of pulmonary tuberculosis and transfer him to a sanitarium, or find that our suspicions were not realized and help him to return to work, his condition meanwhile having been much improved. At the present time, however, what purpose can a survey serve as long as it can go no farther than to make a diagnosis that in a good many cases, to say the least, must be doubted?

The immensity of the tuberculosis problem demands the co-operation of every intelligent physician. If special qualifications for the work are necessary, then let us proceed to become equal to the situation. Let us study the various phases of the question of diagnosis. Let us become more proficient in the art of physical diagnosis, *but by all means, let us not shoulder it all upon the expert.* Once the diagnosis has been made, there is only one thing to do if we are to be consistent, and that is *hospitalization.* That, with our present knowledge of the subject, serious consideration should still be given to dispensary treatment of tuberculosis, is beyond comprehension.

Let us put our demands squarely upon the people. Let us tell them that this great question cannot be solved by half-hearted work. We must tell them that they must build sanitariums where we can place every case of pulmonary phthisis the moment it is discovered. That they must furnish enough places in the country where the improved consumptive could be kept all the time. That they must establish places of recreation where the *suspicious* cases could be sent for recuperation and observation. We must tell them that we are perfectly aware of the difficulties that are to be overcome, but let us impress upon them that we are conducting a war upon a murderous enemy, and we must follow the slogan of warfare—that is, on to victory, regardless of cost. Let us tell the people of Chicago that money spent on surveys and new diagnostic stations while large numbers of consumptives are constantly kept on the waiting list for the lack of accommodations at the Municipal Tuberculosis Sanitarium, cannot be considered as prudently spent, but could be used to much greater advan-

tage by erecting more cottages on the beautiful grounds we already possess.

59 East Madison Street.

BIBLIOGRAPHY.

1. Osler: Practice of Medicine, p. 155.
2. Osler: Practice of Medicine, p. 206, 8th edition.
3. Loeffler: Deutsch. Medicin. Woch., 1913, pp. 24-42.
4. Hamman: Johns Hopkins Hospital Bulletin, 1915, p. 282.
5. Janeway: Ibid.
6. Johns Hopkins Bulletin, 1916.
7. Bandler & Roepke: Die Klinik der Tuberculose, p. 227, 2nd edition.
8. Koch: Deutsch. Medicin. Woch., 1913, pp. 24-42.
9. Rabnow: Deutsch. Medicin. Woch., 1912, p. 1793.
10. Leube: Tuberculosis. Bd. 3.

THE MEDICAL OFFICER WITH THE NATIONAL ARMY.*

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CHICAGO.

At no time in the history of war has the medical officer been so valuable or his responsibilities so great as in the present world war. Not only does he relieve the wounded and restore the sick, but he also assumes great responsibility and command. The defense from gas attack is in charge of medical officers.

The medical reserve officer reporting for duty from civil life or from the Officers' Training Camp finds himself in new and unusual surroundings. If he will keep in mind that he is with friends he will be saved embarrassment and delay in getting settled in his quarters and assigned to duty. To all officers both of the staff and line, let me impress upon them not to buy all the equipment offered them by smart salesmen. Buy a minimum of equipment only. The officer who buys \$300 worth of equipment as I have read in the press, is very extravagant. If you have less equipment than you need you can as a rule get the additional equipment from overcoats to a needle or an anchor in the Exchange (the general store of the army) owned and operated by the soldiers themselves. Prices in southern Texas and other far away points I find are from 10 per cent to 50 per cent cheaper than in the big cities.

The crucial test of war has compelled war departments to make many changes. Where human lives are saved and thereby military efficiency and

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strength increased, the "dolling up" of the soldier is not to be considered, and radical changes in uniform as well as arms are under way. The long overcoat has given place to the short or trench coat in most of our divisions and will beyond any doubt be eliminated for field service. A soldier climbing out of a trench and dashing across "no man's land" must not be handicapped in his movements and his chances of being killed increased at least 100 per cent by being slowed up and exposed to fire for double the time with a coat that prevents free movement of his legs. Riding boots and spurs are classed with the spectacular and useless. Don't report for duty in the field wearing a cap or riding boots and spurs.

If from a training camp don't inform your new friends that you have "been recommended for promotion" for several thousand officers reporting ahead of you from the training camps have told the same story.

The day's duties commence at 6 a. m. in my division in southern Texas.

Calisthenics and drill until 6:45,

Breakfast, 7 a. m.,

Drill, instruction, care of the sick and injured 'till 12 m.

One-thirty to 4:30 p. m., lectures covering the European war illustrated with maps, ride and problems, transportation of the wounded. Medicine and surgery,

Seven-thirty to 9:30 p m., Lectures by staff officers and by foreign officers.

The subjects differ each day and every officer in our division from Second Lieutenant to General attends these lectures and writes an examination upon every lecture given. If he does not make a grade of 50 per cent he must report for further instruction.

Many medical men who are not familiar with the extraordinary demand that is made upon medical officers during and after a battle frequently ask me, "why are medical officers given so much physical exercise, calisthenics and drill?" If an officer cannot stand this course of instruction he would fail and become a liability and care instead of an asset and help when the army is engaged in a battle and when the surgeon is frequently called upon to work 16 and 18 hours over an operating table or in the dressing room attending to the wounded. This physical train-

ing is essential to make him capable of doing just this work for the wounded must be attended to with all possible speed and the surgeon must have the physical strength to meet the demand upon his strength and endurance.

Our nation is building up an army of soldiers better trained, better equipped than the country has ever known in the past. I have served on the firing line in several wars but I have never known civilians suddenly called into military service to have the same thorough training in the art of war and perfect physical development that our national army is getting today. The medical corps composed almost entirely of Reserve officers, is doing a greater share of the work than they have ever attempted in the past and taking a more active part in the winning of battles. For instance, gas and flame defence is under command of medical officers, the offensive under the command of the engineers, every medical officer has to take a gas course to become proficient and expert in wearing the gas mask and pass an examination in gas defence. He must also take a course in non-medical duties, court martial procedure, signal service, ordnance, military trains and pass written examinations in all to qualify for the duties of a staff officer. Never in the history of armies has the position of the medical officer been so important or his services so valuable.

Personally and on behalf of my many comrades, I want to say a word to the members of the profession who are so nobly doing their "bit" by helping those of us who are serving the country away from our homes and families. They are making the burden lighter by their generosity and they are living up to the ethics of the profession as they have existed for more than 100 years and to the unwritten law that has said that "in the hour of need, we, your brother physicians, will take care of your patients and your family." The chivalry of the past is with us today, I am glad to say and from the bottom of my heart I wish to thank the members of the medical profession who have attended my patients and who in every case have, even in emergencies, seen that the fees were for the benefit of my family. There are no ghouls or looters in our profession and I hope the members of other professions are acting in the same manly, human manner to those who are making the sacrifice that must be made to win this war as

the members of the Chicago Medical Society are making to help those of us who are carrying the white man's burden in the fight for liberty and lasting peace.

THE CAUSES OF INSANITY AND THE RELATION OF THE FAMILY PHYSICIAN TO THE PATIENT.*

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KANKAKEE, ILL.

For convenience of discussion the causes of insanity may be divided into three general groups. First we have those cases which are caused by definite organic changes in the brain such as those resulting from traumatism, new growths, acute infections, chronic infections (such as syphilis), vascular changes such as syphilitic endarteritis, arteriosclerosis and hemorrhage. Usually with the exception of arteriosclerosis and syphilis the mental disturbances caused by these various affections are so obvious that we need not consider them tonight. Arteriosclerosis, on the other hand, is at times insidious in its onset and so disastrous in its results that the general practitioner cannot be too well informed concerning the nature of the mental disorder resulting from it. These cases, arising as a rule in middle life or later, are frequently agitated and restless, showing a marked emotional instability. The patients' emotions may give way to tears in one moment and in the next they may be expressed in laughter. Confusion, tendency to wander aimlessly about, syncopal attacks or definite convulsions or even strokes are not uncommon. It is important, therefore, that such cases be early recognized and proper steps taken to prevent self-injury, whether accidental or volitional; and, too, lucid intervals frequently occur during which the patient may attempt feats or business transactions for which he is entirely unqualified.

The conditions, however, which are of far greater importance to the family physician are those resulting from syphilis of the central nervous system. That is especially true of general paralysis of the insane, for there is perhaps no condition in which an early diagnosis is of more importance and at times more difficult.

The so-called classical mental and physical symptoms of general paralysis of the insane, as far as my experience goes, are usually not present. It is a protean disease. The onset may be sudden or it may be gradual over many months or even years, and this disease may simulate any known type of mental disorder. Mistakes in diagnosis result not only in false prognosis but also, since the patient is often the custodian of the family exchequer, disastrous financial and other business transactions may be entered upon. When the onset is rapid and ushered in by definite obvious mental deterioration the physician's task is easy, but it is those cases which progress slowly with frequent more or less complete remissions that are baffling to the diagnostician and are so likely to give rise to family heartaches and other difficulties, which could have been avoided had the family physician only recognized the presence of this terrible disease; and yet, the more I study this disease the more I realize that it is not an easy matter for me to point out the differentiating diagnostic symptoms. In all cases of insanity arising in an individual who has led an active business or professional career, although we know general paralysis of the insane usually occurs during or after middle life, regardless of the symptoms, the complement fixation test should be made, and if positive, the cerebrospinal fluid should be examined, for general paralysis of the insane constitutes a surprisingly large percentage of all cases of insanity. The biennial report from October 1, 1912, to September 30, 1914, shows that there were 1,975 patients admitted to the Kankakee State Hospital. Two hundred and twenty-two of these, or a little more than 11 per cent, were suffering from general paralysis of the insane. The patient should be separated from his business and if the mental disturbance is persistent he should be placed, if he has means, in a private sanitarium and if not in some state hospital where his chances for recovery, if the disorder is curable, are far greater than they would be at home. For if he is suffering from general paralysis of the insane it is better for him, better for his relatives and better for his business the farther he is away from it. I wish especially to emphasize the tremendous role played by syphilis as a cause of insanity and, too, so frequently among our more important men.

*Read before the Kankakee County Medical Society, Nov. 8, 1917.

The second group consists of those cases for which we have thus far been unable to establish a definite organic basis and as far as our knowledge of the subject is concerned the cause or causes are obscure and we can tell you but little more than you already know. They occur comparatively early in life—usually in youth or in young adult life, but may occur later. In this group we find the cases of dementia præcox and manic depressive psychosis. Heredity is undoubtedly an etiological factor in some cases, but we find others in which careful investigation fails to establish the presence of insanity among the relatives or ancestors. The attempt has been made to explain these conditions on the assumption that every individual is born with a certain impetus capable of carrying him along for a given distance. With the dementia præcox case this impetus is insufficient to carry him through life. The fuse, so to speak, is too short and the explosion is premature. This theory appears to assume that these patients begin life as normal individuals but later actually consume or use up their mental faculties. If this is true it seems to me difficult to understand why all cases do not in the long run deteriorate to the same extent or why it should ever be possible for permanent improvement to take place. Other authorities claim that these cases are of an odd type from birth, and that their actions and habits, which we call peculiar, are simply the natural development or evolution of their normal self. While superficially bright as children, especially in the sight of the parents, who are naturally charitable regarding the deficiencies of their own children, yet the skillful alienist would have no difficulty in recognizing the unmistakable symptoms of the dementia præcox of the future. The child is odd. He is not interested in play and other things that interest the average child. He may prefer the company of adults. He may be unable to protect himself against other children or to fight his own battles. Hence, he may win the reputation of being a model child. The difficulty with this theory is one that we often meet and that is the very peculiarities which stamp one man as insane may be considered perfectly normal when exhibited by another under different circumstances. For example: I was informed that a certain man whom some of us know to

be a prominent psychiatrist, was observed carrying on a lively conversation with himself while walking down Michigan avenue in Chicago? Is he insane? I think this alienist would call his own peculiarities, which were not noticeable to others, an evidence of insanity if presented against another person who might be undergoing a trial for his sanity.

Third, we have other assigned causes of insanity such as infection and exhaustion, sexual excesses, including masturbation, and intoxication. The other causes belonging to this group, being less frequently observed, are perhaps of less importance from the point of view of the family physician and we will therefore not take time to discuss them. The existence of exhaustion *per se* is doubted, but that exhaustion frequently accompanies debilitating conditions such as prolonged infections or even lactation is generally admitted, and in our classification of insanity we have a group of cases called infective exhaustive. These cases either recover or terminate in early death. Here again we have difficulty in drawing the line between sanity and insanity. Who can say when we can call an individual insane because he is delirious and suffering from hallucinations in the course of an infectious disease? Such a condition may last only a very brief interval or it may be prolonged many months, finally resulting in complete recovery at home without anyone ever having the slightest suspicion of the patient's having been insane. On the other hand, we frequently have patients brought to us in an acute delirious state of only a few days' duration and may recover within a few days more. Some of these cases recover while confined in the county jail, even before they arrive at the state hospital, yet we say they are insane; but the other patient who remained at home in a state of delirium and confusion for months is not called insane. It is obvious, therefore, that these people undoubtedly suffer a great deal of injustice and we should have some different method of dealing with them, for, after all, it is a serious matter to declare a man insane. It is one thing for us, who are engaged in the care of the insane, to talk about educating the public into the understanding that the insane are invalids and that it is no disgrace to be afflicted with that sickness which we call insanity; but it is quite another thing

to be placed in the position of the unfortunate patient. Whenever possible these cases should be cared for at home by the family physician, and the medical staffs of the various state hospitals should, and I am sure they would, gladly co-operate with the family physician and offer him suggestions regarding treatment, and thus save the patient and his friends the embarrassment of the court and the state hospital.

That sexual excesses and masturbation are responsible for a large percentage of all cases of insanity is a definite conclusion in the minds of the laity and also in the minds of some physicians. We hear this from the parent, from the wives, from the friends of patients and even from the patients themselves. It is not strange that they should hold these ideas, for in mental disturbances a sexual coloring or delusions and hallucinations of a sexual character are more uniformly present than those of any other one type. They may assume the most extraordinary character and may persist even when real sexual excitement is impossible. At times patients, realizing the onset of insanity, have themselves castrated and occasionally perform the operation themselves with the belief that it will result in a cure. The cases of this type which have come under my personal observation are still insane, and it is my belief that masturbation frequently becomes a mere mannerism with some of these patients. Then, too, we often meet those who conscientiously believe sexual congress to constitute a cure for insanity, and we find parents endeavoring to find husbands for their insane daughters with the hope that married life will result in a cure; and I have even known one case where the mother actually hired a mistress to live with her insane son. Now, we who have made a study of insanity, regard these various sexual manifestations simply as a part of the general mental disturbance, and in no sense the cause of mental disorders. The two most powerful and primitive instincts are the sexual and self-preservation and the former is even more powerful than the latter, for the beast will lay down his life in defense of his mate and so will man. Hence, when an individual loses control of his mental faculties, disturbances of this most powerful of all instincts are to be expected.

We have left now the intoxications. Intoxications resulting from infections have already

been discussed, but we still have the drug fiends and alcoholics. The prohibitionists and temperance workers have a great deal to say about alcohol as the cause of insanity. Ministers of the gospel and other leaders of church organizations can produce surprising figures showing the tremendous role played by alcoholic beverages in the production of mental disorders. On the other hand, the tendency of modern psychiatry is to look upon the excessive indulgence in the use of intoxicants as a symptom rather than a cause of mental disorders. The alcoholic is regarded as a naturally abnormal individual and there is no occasion for doubting this—at least as regards the so-called periodic drinker. Some of these individuals can work for months in the presence of alcoholic beverages and never touch a drop only to develop suddenly an irresistible craving for it. We even hear the theory advanced that if these persons could not obtain alcohol their morbid tendencies would manifest themselves in other spheres, perhaps criminal or sexual or both. My personal belief is that this is probably carrying our conclusion a step too far, and if alcohol as a beverage could be placed out of existence many worthless creatures would become useful citizens and the population of our hospitals for the insane would increase much less rapidly than it has in the last few years.

Therapeutic measures are not included in the subject under discussion, nevertheless I am reluctant to close without saying something about the care of the alcoholics. As a rule they are more or less hopeless unless arrangements can be made whereby it will be impossible for them to obtain the drug, and it is a wise and just law that provides for the proper supervision and prolonged segregation of confirmed drunkards. The State of Illinois, however, has no suitable institution for the care of this class of defectives. At the state hospitals they recover rapidly from the immediate effects of alcohol, but too often alcoholism is only one of their numerous vices. Usually in many respects they are skillful and may be bright, at least superficially, and because of this they are mischief makers and more or less of a constant source of trouble and annoyance at the state hospital from which they escape practically at will only to be returned in a few days in a state of intoxication.

(Continued on page 63)

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JANUARY, 1918

Editorials

EX-GERMAN AMBASSADOR GERARD RAPS HEALTH INSURANCE IN GERMANY.

“The Paternal German Government”

Former U. S. Ambassador Gerard, in his story “My Four Years in Germany,” as published in the *Philadelphia Public Ledger*, gives data that the apologists for health insurance would do well to assimilate.

For instance, he tells us “that the much admired workingmen’s insurance against unemployment, sickness and old age has tied the worker to his job as the serf of old was tied to the soil. The government disposes of his wages to so large an extent that he has not enough left to strike out for himself, and if by any chance he does break loose, he loses all his past payments.”

Again Gerard notes that more than 55 per cent. of the families in Berlin live in a single

room, and adds the biting and wholly accurate comment:

“The Germans are taken care of and educated very much in the same way that the authorities here (in America) look after the inmates of a poorhouse or penitentiary.”

A statement which is the sad but literal truth. The German people are not free politically, industrially, intellectually, or in any other way. The German government molds the minds, directs the energies, and even spends the incomes of its subjects.

MEDICAL HISTORY OF ILLINOIS.

The Committee on Medical History of the Illinois State Medical Society, consisting of Doctors W. A. Evans, Mortimer Frank, C. C. O’Byrne, W. Q. Ensign, Geo. N. Kreider, E. W. Weis, Carl E. Black, is anxious to secure any historical data pertaining to the medical fraternity of Illinois. They also wish donations of almost anything which was connected with the early practice of medicine in Illinois for an exhibit. These donations may consist of saddlebags, office furniture, office equipment, books, journals, instruments or anything a doctor may have used during the early days. They wish to make this exhibit at the State Medical Society meeting in Springfield; again at the meeting of the American Medical Association in Chicago, and later at the Centennial Commission in Springfield. Any one having access to anything that may be of interest in the historical way should communicate with Dr. Carl E. Black, Jacksonville, Ill.

REPORTING VENEREAL DISEASES.

A new measure has recently been inaugurated into a law, which will attempt to enforce the reporting of all venereal diseases. Evidently, the authors have realized that difficulties await the enforcement, for there has been written into the ordinance loop holes of escape for the rich and influential; who do not wish their cases, and particularly their names, reported. We always supposed that a “patient of good repute in his community” could spread venereal disease as fast and far and wide as one of lesser standing, and we did not know that his special brand of disease was preferable to that of his less for-

tunate neighbor, whose standing in his community was not so good.

We predict if there is an attempt to enforce this ordinance, there will be trouble ahead, and we are not sure, in the event of its enforcement, that the doctor will not be the loser, as certainly society will be. We do not pretend to know what the legal status of this law may be—time and the courts must answer that—but we are quite sure it will cause many entanglements. We have no idea what attitude those specialists, who are treating these diseases, will take, but we venture to say they will not report their cases. It will be financial suicide for them if they do.

As undesirable as all this may be, the regrettable thing is that the educational agencies will lose all results of their work and influence, and temporarily, at least, the question of venereal disease will sink low again, and its victims will fall once more into the hands of charlatans, or perhaps worse, will be left untreated until the ravages of their disease are apparent.

The educational effort made by various organizations, physicians and other factors has been far-reaching. The laity has been taught that this is the day of preventive medicine. People have been taught the evil of venereal and other diseases, and society is benefiting by this educational propaganda. A continued educational campaign, conducted in a sane manner, will eventually teach the people how to so live as to escape many of the ill conditions of life now existing.

The benefits derived from the various educational factors are proven every day, and are demonstrated by the large number of Wassermann tests and other examinations made in all the laboratories;—many of the tests made at the patients' requests alone. This is proven by the number of young people who go to physicians previous to their marriage, to ascertain if they are physically fit, if they are free from tuberculosis, syphilitic taint or other infectious diseases. This is a recent experience of physicians. It did not exist prior to educational activities. Only a few years ago did the present educational fight against tuberculosis begin, and already has the mortality rate from that disease fallen. Tuberculosis and syphilis have some characters in common.

The layman is being taught and is beginning to understand that he should not have these

diseases, and if he has them, he should get rid of them and not pass them on either to his neighbor or to posterity. Will he go to his physician for information or will he go for physical examination and various analyses previous to marriage, if he knows that an affirmative finding will be reported and become open knowledge to the public? Nay, nay, and neither would you, my dear health officer, who have fostered and nursed this bill until it has become a law.

Physicians have been gaining the confidence of their patients—the public—and once having gained that confidence, are in a position to educate and treat them until cured. Can the physician retain the confidence of a patient when that patient knows that every ailment and condition is going to the public? Once again, no.

We do not wish to oppose honest beneficial health regulations. We want to boost them, but we want first reasonable argument showing beneficial results to be obtained from such regulations, and want to be convinced that such will not tear down the work that capable men have been doing for years.

We do not believe that this new law is beneficial. We believe it will not only prove a farce, but will be the undoing of much good that has been done prior to its enactment. This educational work doubtless will be continued by those physicians—specialists, most of them—in their teachings both to their patients and to the public, but they can not accomplish results laboring under such a handicap. The enactment of this law, we think, lies largely with public health officers, who wish to increase public notice to their office and their efforts, and who are not always fully advised on the subjects with which they deal.

ANOTHER INSULT TO THE PROFESSION

In a recent number of the *Bulletin* of the Chicago Health Department, the following insult is offered to the medical profession:

"The Commissioner of Health is glad to announce to the medical profession that the department has available at the present time a limited amount of the new anti-pneumococcus serum. * * *

"In view of the fact that the serum is given intravenously under certain specific precautions.

the serum will not be given at large, except in selected cases.

"For the present, the Health Department will furnish one of its workers, who has studied this method of administration at Rockefeller Hospital, to administer the serum."

Is this a thinly (?) veiled method of telling the medical profession of Chicago that it is a set of ignoramuses, who are not capable or competent to practice medicine and, therefore, our highly informed Health Commissioner will detail one of the subordinates to treat our pneumonia patients? Chicago physicians presumably have never heard of intravenous medication. They have not sufficient knowledge to be permitted the use of vaccines, serums, antitoxins, etc., therefore, our Health Commissioner will select some one from his corps of assistants to administer this pneumococcus serum.

In Chicago are physicians known to be at the head of the profession, and known internationally as great medical teachers and clinicians. A great medical center here has brought men from all over the country to attend lectures, post-graduate schools, clinics and hospital courses. Perhaps a larger per cent of the physicians of Chicago are medical teachers than in any other city. The city is now known as the great medical center of the country. To these add the capable men who have had years of access to these medical institutions of learning, and have spent years of their life following their profession, and then have this insult thrown upon them—and by whom?

What a Great and Glorious Feeling one must have when he is Health Commissioner!

COUNTY SOCIETY MANUSCRIPTS.

The JOURNAL wishes to call attention of secretaries of the county societies, that a part of their duty is to send the manuscripts read at their county society meetings to the JOURNAL. Not a half dozen secretaries of the entire state are careful in this matter. If these papers are not published, the society has lost the value of them and the authors have labored in vain.

Many authors do not like to send in their own manuscripts and ask for publication. The secretary is not treating the members of his society courteously when he asks him to read a paper before his society and then will not show enough

interest to have it published. A little more care in this matter might assist the secretary in presenting interesting programs to his society.

WARNING

We are advised that a very clever swindle is being worked by a young man calling on physicians in various sections of the country. He is fraudulently soliciting orders and collecting money for subscriptions to medical journals and for medical books published by various firms. He usually represents himself as a student, working his way through college and trying to get a number of votes to help him win a certain contest. He sometimes uses the names of L. D. Grant, H. E. Peters, R. A. Douglas and F. C. Schneider and he usually gives a receipt bearing the heading of some Society or Association, such as United Students' Aid Society, the Alumni Educational League, the American Association for Education, etc.

The description given of this swindler is: young man of dark complexion, rather slender, with very dark hair combed straight back and shows his teeth plainly when talking.

The whole scheme is a fraud. The societies mentioned do not exist. The idea is to collect money by offering special discounts and prices on medical books and journals and skip with the money.

This young man does not represent W. B. Saunders Company, whose name he frequently uses. He is a fraudulent subscription agent and physicians, generally, should be on the lookout for him.

37,500 NURSES WILL BE NEEDED FOR ARMY OF 1,500,000 MEN; ABOUT 3,800 NOW IN CORPS

1,000 PER CENT INCREASE SOUGHT

Nurses Being Called for Daily to Meet Needs in United States and for Duty Overseas—
280,000 in the Country

Thirty-seven thousand five hundred nurses will be needed in the Army Nurse Corps of the Medical Department, according to present estimates based on an Army of 1,500,000 men. The present strength of the corps is about 3,800. Increasing the enrollment by nearly 1,000 per cent in a year is the task confronting the corps.

Daily numbers of nurses are being called for to meet immediate needs in Army hospitals in the United States and for duty overseas. The present rate of enrollment does not meet the demands. Hospitals at National Guard and National Army camps still need 371 nurses to bring the quotas of all up to the minimum considered necessary—65 each.

DECEMBER APPLICATIONS

Since the Army Nurse Corps made public, early in December, its urgent need for more nurses 1,903 requests for application blanks have been received and

the blanks forwarded. During the same period 351 nurses have applied for enrollment and many of these already have been accepted. These enrollments are in addition to about 650 nurses obtained through the Red Cross during the same period.

In order to get the enrollments up to the needed number some of the requirements heretofore imposed are being waived. According to estimates of the nursing committee of the General Medical Board of the Council of National Defense, there are between 80,000 and 90,000 registered nurses in the country and about 200,000 other graduate and practical nurses.

RESERVE TO BE ORGANIZED

Just as soon as immediate needs of cantonment hospitals have been cared for a reserve of 100 nurses will be organized for emergency service in the United States. Lakewood Hotel, Lakewood, N. J., has been leased by the Government for use as a general hospital for the Army and provisions will be made for housing the reserve nurses there. This hotel has not yet been turned over to the War Department, but will be in a week or so. The necessary alterations will be made as soon as practicable and the 100 nurses for the reserve will be needed in addition to the permanent nursing staff of the hospital.

ENEMY OWNED PATENTS ARE GRANTED AMERICAN FIRMS

The Federal Trade Commission has granted to three American firms licenses to manufacture and sell two drugs which heretofore have been controlled by enemy aliens under American patents.

The Abbott Laboratories, of Chicago, were licensed to produce and sell "Veronal" under a nonexclusive license. The patent for this important drug was granted to Emil Fisher for E. Merck of Darmstadt, Germany, to run until 1922. Under the terms of the license issued today the drug, one of the safest and best hypnotics and nerve calmatives, is hereafter to be known as "Barbital." It is stipulated that the new name, together with the scientific name—C. C. diethylbarbituric acid—be printed on all packages containing the drug. Old name of "Veronal" may also be used on the packages in an explanatory sense. The Abbott Co. is required under its license to pay to the Alien Property Custodian 5 per cent of its gross receipts on the sale of the drug. It is further stipulated that the Federal Trade Commission reserves the right to fix prices and be the judge at all times of the quality of the drug manufactured. The prewar price of this drug was \$21.50 per pound; it now costs \$40 per pound to import it. The Abbott Co. can make it at \$20 per pound, and will sell it at a 15 per cent profit.

SECOND LICENSE GRANTED

The Rector Chemical Co., of New York City, and the Farbwerke Hoechst Co., of which latter Herman

Metz holds all the stock, were licensed to manufacture and sell the drug introduced as Novocain, which is hereafter to be called "Pro-Caine." "Pro-Caine" is a local anaesthetic extensively used in surgery. It has largely supplanted the use of cocaine and has none of the ill effects or habit-forming qualities of cocaine. The prewar price for "Pro-Caine" was \$52 per pound, but the last sale a few weeks ago brought \$720 per pound. The Rector Co. believes it can manufacture "Pro-Caine" for \$65 per pound and agrees to sell at about \$95 per pound. Right to fix price and judge of the quality of the production as usual is reserved by the Federal Trade Commission.

The licensees are required to pay to the Alien Property Custodian 5 per cent of their gross receipts. It is stipulated also in the licenses that the new name "Pro-Caine" must appear on all packages containing the drug.

WEEDING OUT INCOMPETENT OFFICERS IN MEDICAL CORPS

Surgeon General of the Army, William C. Gorgas, has ordered that steps be taken for the elimination from the service of all incompetent medical officers. In this category will be placed officers not fully qualified to perform their duties because of mental and physical incapacity, bad habits, or laziness. By the provisions of this order, effective December 14, officers assigned to duties that they can not competently perform because of unsuitable previous training will be transferred and tried in other positions. If then unable to do satisfactory work, they will be reported to the Surgeon General as unfit and sent before a board with a view to their discharge from the service.

ORDERS TO COMMANDING OFFICERS

Recognizing that a proportion of medical officers are not fully qualified to perform their duties because of physical disability, mental incapacity, temperamental unfitness, laziness, inability to command men, lack of education or proper training, all division surgeons, commanding officers of base hospitals and other medical officers having subordinates are directed to list those whose work has not been satisfactory. If mental incapacity is suspected, psychological examinations will be given to determine the fact. Systematic instruction in military hospitals recommended to remedy incompetency due to poor training in the technique of professional work. The medical officers' training camps are relied upon to correct deficiencies other than professional incapacity.

TO BE GIVEN FAIR TRIALS

Medical officers who have been transferred will be given proper instruction in their new work and will not be discharged from the service until their superiors are convinced that they can not become competent within a reasonable time. No action for discharge will be taken until they have failed in two lines

of work—viz., the professional care of the sick and disabled and medical field work, the latter including camp sanitation, handling of men, first aid and transportation of wounded.

NURSES ARE URGENTLY NEEDED FOR THE U. S. ARMY HOSPITALS

Surg. Gen. Gorgas of the Army has made the following appeal to the superintendents of training schools for nurses, to presidents of the alumnae associations of the same schools, to the presidents of State nurses associations, and to the presidents of State examining boards for registered nurses:

"Please bring to the attention of the graduate nurses of your school, association, and nursing profession in general, the great need of the War Department for the services of nurses in the various army hospitals in this country and abroad as a result of the war. For the proper care and preservation of life of sick and wounded soldiers in hospitals, skilled nursing, care, and attention is absolutely essential, and can only be given properly by graduate nurses. The men of America have so nobly answered their country's call that it is believed the nurses would not be less patriotic but would come forward to give their aid in the hospitals if they but understood the urgent need.

NEED GROWING DAILY

"This need is growing daily and to meet it, it will be necessary for this office to have on file the names of thousands of nurses who can respond to a call on short notice. In the course of the next year it is estimated that at least 20,000 nurses will be required in the army hospitals at home and abroad should the war continue, therefore the applications of all graduate nurses who are professionally, physically, and morally qualified for service will be given consideration by this office, certain of the requirements being waived for the period of the war emergency only. Nurses will be appointed for three years if they desire, or for the period of the emergency.

"A nurse traveling under orders is given a first-class ticket, Pullman car accommodations, and is reimbursed for incidental traveling expenses not exceeding \$4.50 per day for meals and tips. Nurses are not required to purchase new uniforms, but may use any white uniforms which they may have. Should it be necessary to purchase new ones, those conforming to the specifications should be obtained.

"Application should be made direct to the superintendent, Army Nurse Corps, War Department, Mills Building, Washington, D. C. It is hoped that the nurses of the country will show their patriotism by responding to this call in large numbers."—*Official Bulletin*, Thursday, Dec. 6, 1917.

ABSTRACT

MORLEY:—The Preparation and Standardization of Ovarian and Placental Extracts.—Surgery, Gynecology and Obstetrics, Volume XXX 1917—324.

Morley gives due emphasis in his article to the need for more uniform methods in the preparation of ovarian and placental extracts. Tangible laboratory and clinical data are still moreover lacking in extent. A review of the more important articles on the above subject reveals the circumstances that it is only within the last ten years that an attempt has been made to isolate the active principle of the ovary and placenta, especially the former. Iscovenso (1908) obtained "lipoids" from the red blood corpuscles, hypophysis, kidney, adrenals, ovaries, the testicles and the corpora lutea, and discovered they exerted a certain action on the female genitalia. The "home-stimulating" lipoids, he found, had an action on the same organ from which they were derived, the "hetero-stimulating" lipoids exercising an action on different organs—this division he discovered later being purely arbitrary. Hermann (1915) believes he has succeeded in separating the "Active substance" of the corpus luteum and of the placenta as a specific chemical substance, having identical physiological properties. Hermann possibly obtained his so-called active substance in a purer state. After engaging in special research work along this line during the last two years, Morley expresses the opinion that up to the present time no ideal method of preparation has been formulated, and until that is accomplished, standardization of the product will not be attempted. Considering the newness of the subject the article concludes with quite an extensive bibliography.

A WORD TO THE WISE—OR OTHERWISE

A greater or less number of physicians may recently have received in their mail a letter identical with one which the writer received this morning. Among the attractive plums in this literary pudding are the following (soft pedal, please):

"Would you like to get into a branch of medicine that will afford greater pecuniary advantages, less petty annoyances, such as Sunday work, night calls, slow pay, etc.? * * * If so, we would like to talk to you with a view to appointing you medical director of the ——— Life Insurance Company." This is an unusual opportunity for the progressive, ambitious physician to make official connections that will prove very profitable, with a steady income, regular and short hours, and a position of dignity and influence. It would not be necessary for you to give up your regular practice, but would give you a chance to get out of it gradually if you so desired. We have a clean proposition with a *string* organization and several unique features and advantages. *It would, of course, be necessary for you to be a stockholder in the company,** but we would make you a special proposition which would let you in right and would prove a profitable investment."

To the large number of the older members of the profession who recall the gullible days of their youth, when financial plums hung upon every "promising"

*Italics mine.—G. F. L.

tree, and perhaps to some of the young fellows, the proposition under consideration will afford opportunities for retrospection. For instance, they doubtless will remember the "appointments" (sic) they received as "medical examiners" of life insurance companies, *the only requirement for which was that the prospective examining physician should take out a large policy in the company.* They will remember that they sometimes were allotted examination enough to pay for the first premium, but that in most instances they did not receive even this. The old doctors who have become wise from experience probably will not take the trouble to investigate the reliability of the _____ Life Insurance Company, which, of course, may be an injustice to the aforesaid company, but, nevertheless, will be natural enough. It is possible that there really is some such animal in the world as a "branch of medicine" that will afford all the advantages and emoluments promised by the _____ Life Insurance Company. If so, and there are any specimens now in captivity, the writer will gladly pay a substantial admission fee to view the *rara avis*.

That the _____ Life Insurance Company is intimately and intelligently in touch with matters medical in Chicago is shown by its humane and philanthropic endeavor to relieve your humble servant from "Sunday work and night calls." I might remark in passing, however, that I have sufficient will power left to enable me to avoid breaking the Sabbath to any physically disastrous or financially unprofitable extent. As for "night calls," if in my own case they ever become onerous, I will immediately consult some friendly urologist.

The writer notices with some emotion the *naivete* with which the _____ Life Insurance Company states that it has a "string" organization. As to whether the company's statement is a typographic error or supererogation, the reader must decide for himself. Precisely what the _____ Life Insurance Company means by the statement that it "would make you a special proposition which would let you in right, and will prove a profitable investment," can, of course, be ascertained by inquiry. It is to be hoped that "let you in right" is not the dominant note in the proposition. But the fact that "it is necessary for you to be a stockholder in the company" suggests the wisdom of a careful investigation before making any investment.

In propositions such as that under consideration it is well for the doctor to remember that about 87 per cent of legitimate business enterprises are failures, so that, granting that everything is as honest and fair as might appear on the surface, the odds are against the man who "plays the other fellow's game." It would seem that a life insurance company that has sufficient financial backing to insure a reasonable chance of success should not be compelled to solicit subscriptions to stock from physicians with alluring promises of employment as medical examiners or directors. The _____ Life Insurance Company at present under consideration may be financially solid and absolutely on the square, but, considering the average chances of

failure of new enterprises, I would advise any physician who chances to have a little loose money lying around to refrain from backing the other fellow's hand. If he wants a sure thing, let him buy a Liberty Bond, a savings certificate or a good first mortgage bond. If he merely wishes to warm his sporting blood, let him bet on a prize fight, the outcome of the European war, or almost anything else where he has a run for his money.

G. FRANK LYDSTON.

—From *Bulletin Chicago Medical Society, December 15, 1917.*

DRASTIC ORDER TO SAVE HEALTH OF UNITED STATES SOLDIERS

Washington, D. C., Dec. 1.—(Special.)—To offset the effect of reports of a high mortality rate in the army the war department has made public a report prepared by the statistical division which shows that since America entered the war only 1,394 men have died, been wounded, or reported as captured or missing.

This report covers every branch of the army, national guard, national army, and the regular army here and in France. Since April 6, 1,348 soldiers have died from all causes, thirty-five have been wounded, and eleven have been captured or reported as missing. "Natural causes" is marked against 937 deaths, accidents have resulted in 352 deaths, while only eleven have been killed in action and eighteen lost at sea.

There is no disposition in Washington, however, to conceal the fact that the recent report made by Surgeon General Gorgas has been the cause of considerable anxiety. One of the first results has been the promulgation of most stringent regulations designed to reduce the number of pneumonia cases in the national guard and national army camps.—*Chicago Sunday Tribune.*

WHICH WAS THE WORST?

Dr. J. N. of S. was called to the R. S. home to attend the *condition* of Mrs. W. R., which was worse, but on the gain at present.—*Kirkland (Ill.) Enterprise.*

MANY COME TO ALEDO FOR SURGICAL RELIEF

Dr. S. has been kept quite busy the past week operating upon out-of-town patients. Among those operated upon were the two children of Mr. and Mrs. D. of Oquawka for tonsils and adenoids; daughter of M. of Burgess for tonsils; daughter of Mr. and Mrs. G. R. of Joy for tonsils; Mrs. J. L. of Matherville, eye operation; Miss T. of Oakville, Iowa, ear operation; Mrs. F. O. of Morning Sun, Iowa, nose operation; Miss A. F. of Reynolds, ear operation, and Mrs. F. E. of Woodhull, throat operation.—*Aledo Record.*

Public Health

MEDICAL ADVISORY BOARDS.

For the purpose of re-examining registrants for the new national army who have been disqualified for military service by local exemption boards, there have been created thirty-three medical advisory boards, ten of which will confine their activities to the counties of Cook and Lake, and twenty-three to the other counties of the state. These boards were selected at a conference in Springfield, held under the direction of Major Frank Billings of the Medical Reserve Corps, who was detailed by the War Department to assist Governor Frank O. Lowden in districting the state and in selecting the members for these boards. Each board is made up of from five to six internists, one of whom is to devote himself especially to tuberculosis; three to four surgeons, two urologists, two neurologists, two eye, ear, nose and throat men and two dentists. The total number of physicians selected by this service is 554, 203 of whom are internists, 134 surgeons, 24 urologists, 21 neurologists, 97 eye, ear, nose and throat men, and 75 dentists.

The individual boards were purposely made large enough to assure efficient service for the government and at the same time to deprive the public of its customary medical service as little as possible. The physicians selected are, in most instances, busy men devoting themselves to special lines of work and in the plan of organization adopted, it will be possible for the Boards to work in three shifts, leaving to each member ample time for the pursuit of his private practice.

In addition to the thirty-three advisory boards, there has been created a medical advisory board at large, made up of neurologists and psychiatrics, whose services are available to any medical advisory board on call. The members of the Medical Advisory Board are Dr. George A. Zeller, Alton State Hospital, Alton; Dr. Cyrus H. Anderson, Anna State Hospital, Anna; Dr. Charles F. Read, Chicago State Hospital, Dunning; Dr. Ralph T. Hilton, Elgin State Hospital, Elgin; Dr. E. A. Hill, Jacksonville State Hospital, Jacksonville; Dr. H. D. Singer, State Psychopathic Institute, Kankakee; Dr. Eugene Cohn, Kankakee State Hospital, Kankakee; Dr. Thomas H. Leonard, Lincoln State School and Colony, Lincoln; Dr. Ralph A. Goodner, Peoria State Hospital, Peoria; Dr. C. E. Ehle, Illinois Soldiers and Sailors Home and Hospital, Quincy; Dr. Max C. Hawley, Watertown State Hospital, Rock Island; Dr. A. H. Dollear, Norbury Sanitarium, Jacksonville; Dr. George W. Brock, Atlanta; Dr. Frederick H. Daniels, Batavia; Dr. Thomas G. Charles, Beardstown; Dr. William A. Stoker, Centralia; Dr. Samuel A. Graham, Clinton; Dr. Frank M. Anderson, Decatur; Dr. Bruce D. Parrish, Mattoon, Dr. Emil Z. Levitin, Peoria and Dr. William A. Crooks, Rock Island.

The personnel of the Medical Advisory Boards is as follows:

District No. 1, embracing Jo Daviess, Stephenson and Carroll counties, with headquarters in Freeport: Drs. B. A. Arnold, N. R. Harlan, W. L. Karsher, C. L. Best, W. B. Peck, J. T. White, L. G. Voight, J. S. Clark, J. W. Rideout, C. L. Snyder, E. H. Place of Freeport, Dr. Joseph Dolamore of Galena and Dr. J. D. Lyness of Savanna.

District No. 2, embracing Winnebago, Boone, McHenry and Ogle counties, with headquarters at Rockford City Hospital, Rockford: Drs. F. H. Kimball, John A. Green, Charles E. Wright, W. B. Helm, John E. Allaben, Thos. B. Culhane, John E. Tuite, Wm. R. Fringer, W. G. Hatch, Sidney P. Wilgus, James E. Harned, Marion L. Hanaford, Charles J. Sowle of Rockford, Dr. Arthur W. Swift, Dr. Robert B. Andrews and Dr. Robert W. McInness of Belvidere, Drs. H. M. Francis, Norman Lee Selye of Woodstock and Dr. Horace H. Sheets of Oregon.

District No. 3, embracing the counties of Cook and Lake, with the following Boards: *Board No. 3A* with headquarters at St. Joseph's Hospital, 2100 Burling St., Chicago: Drs. George E. Baxter, 4610 Broadway, Dr. John A. Robison, 30 N. Michigan Ave., Dr. A. C. Crofton, 25 East Washington St., Dr. Chas. J. Whalen, 25 E. Washington St., Dr. George C. Hunt, 937 Foster Ave., Dr. Charles Adams, 33 Bellvue Place, Dr. Coleman Buford, 122 S. Michigan Ave., Dr. Frederick A. Jefferson, 202 S. State St., Dr. William Hessert, 547 Fullerton Ave., Dr. John B. Ellis, 25 E. Washington St., Dr. Wm. L. Noble, 32 N. State St., Dr. George Fiske, 25 E. Washington St., Dr. Austin A. Hayden, 25 E. Washington St., Dr. John A. Cavanaugh, 7 W. Madison St., Dr. G. J. Dennis, 25 E. Washington St., Dr. Herman Brown, 31 N. State St., Dr. Frank Lydston, 32 N. State St., Dr. Chas. McKenna, 6 N. Michigan, Dr. Peter Bassoe, 30 N. Michigan, Dr. Edw. F. Leonard, 25 E. Washington, Dr. Ethan A. Gray, 2733 N. Clark, Dr. G. W. Dittmar, 58 E. Madison St., Dr. D. C. Bacon, 31 N. State St., Chicago.

Board No. 3B, with headquarters at Augustana Hospital, 2043 Cleveland Ave., Chicago: Drs. Frank Smithies, 30 N. Michigan Ave., Robert B. Preble, 30 N. Michigan Ave., Homer M. Thomas, 22 E. Washington St., Dr. Anders Frick, 3219 Clark St., A. J. Oshner, 2106 Sedgwick St., J. W. Whiteside, 714 Postal Tel. Bldg., Gilbert Wynekoop, 4500 Sheridan Road, David Fiske, 25 E. Washington St., J. B. Loring, 25 E. Washington St., Frank Allport, 7 W. Madison St., Dr. George P. Marquis, 30 N. Mich. Ave., Alfred N. Murray, 25 E. Washington St., Nelson M. Percy, 2106 Sedgwick St., Ralph C. Hamill, 30 N. Michigan Ave., Lewis J. Pollock, 25 E. Washington St., Dr. G. C. Poundstone, 2605 Milwaukee Ave. and Dr. D. C. Bacon, 31 N. State St., of Chicago.

Board No. 3C, with headquarters at Cook County Hospital, Harrison and Wood Sts., Chicago: Drs. Leon Bloch, 25 E. Washington St., Frederick Tice, 25 E. Washington St., Milton M. Portis, 122 S. Michigan Ave., L. M. Loeb, 34 N. Michigan Ave., Archi-

bald L. Hoyne, 25 East Washington St., A. B. Keyes, 122 S. Michigan Ave., T. A. Davis, 2344 Jackson Blvd., Lawrence Ryan, 32 N. State St., Fred G. Dyas, 25 East Washington St., E. V. L. Brown, 122 S. Michigan Ave., George F. Suker, 25 E. Washington St., Arthur M. Corwin, 25 E. Washington St., William M. Stearns, 22 E. Washington St., F. A. Bisdorn, 1548 Belmont Ave., Frederick G. Harris, 104 S. Michigan Ave., J. S. Nagle, 5 N. Wabash Ave., S. Krumholz, 25 E. Washington St., Clarence B. King, 4100 Madison St., H. A. Potte, 31 N. State St. and H. O. Hansen, 1553 W. Madison St., Chicago.

Board No. 3D, with headquarters at Cook County Hospital, Harris & Wood Sts., Chicago: Drs. K. K. Koessler, 104 S. Michigan Ave., Theodore Ticken, 30 N. Michigan Ave., Wm. J. Butler, 7 W. Madison St., E. K. Armstrong, 5501 Prairie Ave., Jacob F. Hultgen, 1543 W. 51st St., Arthur Beifeld, 122 S. Michigan Ave., Paul F. Dorf, 910 Dakin St., Paul Oliver, 625 N. Elmwood St., Wm. R. Cubbins, 3928 Grand Blvd., Alfred Baouffluer, 2449 Washington Blvd. Charles M. Jacobs, 6853 Jeffery Ave., J. W. Clark, 122 S. Michigan Ave., Chas. G. Darling, 122 S. Michigan Ave., Joseph C. Beck, 2551 N. Clark St., Robert Sonnenschein, 4534 Michigan Ave., George W. Hall, 416 E. 46th Place, H. I. Davis, 5177 Michigan Ave., E. L. McEwen, 1703 Chicago Ave., Arthur W. Stillians, 809 E. 50th St., Louis Schultz, 25 E. Washington St., and Dr. A. M. Howett, 108 N. State St., Chicago.

Board No. 3E, with headquarters at the Presbyterian Hospital, Congress and Wood Sts., Chicago: Drs. A. F. Sippy, 122 S. Michigan Ave., B. McPherson Linnell, 14 Chalmers Place, J. Murray Washburn, 122 S. Michigan Ave., Wilbur E. Post, 122 S. Michigan Ave., Arthur Dean Bevan, 122 S. Michigan Ave., Dean D. Lewis, 122 S. Michigan Ave., Carl S. Davis, 122 S. Michigan Ave., B. F. Davis, 122 S. Michigan Ave., D. B. Phemister, 122 S. Michigan Ave., Emory Hill, 30 N. Michigan Ave., Cassius D. Westcott, 22 E. Washington St., George E. Shambaugh, 122 S. Michigan Ave., Stanton A. Friedberg, 104 S. Michigan Ave., Herman L. Kretschmer, 122 S. Michigan Ave., Thor Rothstein, 122 S. Michigan Ave., F. B. Moorhead, 122 S. Michigan Ave. and J. C. McGuire, 4131 W. Monroe St., Chicago.

Board No. 3F, with headquarters at West Suburban Hospital, Austin Ave and W. Ontario St., Chicago: Thomas E. Roberts, 132 N. Oak Park Ave., W. G. Willard, 123 N. Oak Park Ave., John J. Meany, 3725 W. Chicago Ave., Wm. H. Burmeister, 140 S. Hamlin Ave., J. W. Vanderslice, 155 N. 64th Ave., Oak Park, J. V. Fowler, 3048 Palmer Square, Thomas I. Motter, 166 N. Kenilworth Ave., Anthony Rud, 535 N. Central Ave., Francis R. Sherwood, 3508 W. Harrison St., F. W. Kettlestrings, 332 N. Grove Ave., Henry P. Bagley, 208 Clinton Ave., Richard H. Brown, 5827 Race Ave., Earl B. Fowler, 209 Oak Park Ave., Oak Park, Oliver S. Ormsby, 25 E. Washington St., E. W. Pothoff, 1139 Austin Blvd., Ralph B. Cobb, 30 N. Michigan Ave., Gregor B. Hassin, 31 N. State St.,

Lester F. Fryant, 77 E. Washington St. and Dr. C. W. Coltrin, 59 E. Madison St., Chicago.

Board No. 3G, with headquarters at St. Luke's Hospital, 1431 Michigan Ave.: Drs. John Favill, 122 S. Michigan Ave., George W. Webster, 30 N. Michigan Ave., Edward F. Wells, 4744 Woodlawn Ave., Charles L. Mix, 104 S. Michigan Ave., W. S. Harpole, 30 N. Michigan Ave., A. E. Halsted, 30 N. Michigan Ave., Thomas J. Watkins, 104 S. Michigan Ave., Arthur H. Curtis, 104 S. Michigan Ave., S. W. McArthur, 122 S. Michigan Ave., Dr. W. H. Allport, 40 Bellevue Place, Dr. Casey Wood, 7 W. Madison St., Paul Guilford, 7 W. Madison St., T. M. Hardie, 30 N. Michigan Ave., O. H. Maclay, 25 E. Washington St., Frank E. Simpson, 59 E. Madison St., Wm. T. Belfield, 32 N. State St., Archibald Church, 206 S. Michigan Ave., Wm. D. Napheys, 1533 Hyde Park Blvd., Hugh T. Patrick, 25 E. Washington St., T. L. Gilmer, 122 S. Michigan Ave., A. G. Johnson, 122 S. Michigan Ave., Chicago. With headquarters at Provident Hospital, 36th and Dearborn Sts., Chicago: Dr. Daniel Burrows, 3562 Forest Ave., Luther J. Osgood, 104 S. Michigan Ave., A. Wilberforce Williams, 3408 Vernon Ave., W. K. Jacques, 4316 Greenwood Ave., William E. Morgan, 2526 Calumet Ave., Daniel H. Williams, 3129 Indiana Ave., Allen A. Wesley, 3102 State St., George C. Hall, 3408 S. Park Ave., Daniel W. Eiss, 15 E. Washington St., Charles M. Robertson, 32 N. State St., Ed. S. Stewart, 6116 Rhodes Ave., H. Reginald Smith, 3801 S. State St., Albert C. Mowry, 5348 Michigan Ave., Marcus S. Oliver, 5348 Michigan Ave., Albert V. Yudelson, 4839 S. Michigan Ave., Charles E. Bentley, 25 E. Washington St., and Thomas T. Carlisle, 3601 S. State St., Chicago, Ill.

Board No. 3H, with headquarters at Wesley Hospital, 2449 S. Dearborn St., Chicago: Drs. Chas. A. Elliott, 30 N. Michigan Ave., Alex A. Goldsmith, 29 E. Madison St., Achilles Davis, 29 E. Madison St., Arthur R. Reynolds, 25 E. Jackson Blvd., N. S. Davis, Sr., 7 W. Madison St., Wm. E. Schroeder, 25 E. Washington St., H. M. Richter, 5117 University Ave., Frank E. Pierce, 104 S. Michigan Ave., Brown Pusey, 7 W. Madison St., George T. Jordon, 30 N. Michigan Ave., Robert Blue, 25 E. Washington St., J. Gordon Wilson, 104 S. Michigan Ave., Fdk. Menge, 25 E. Washington St., Dr. Charles B. Younger, 25 E. Washington St., Victor D. Lespinasse, 7 W. Madison St., Norman D. Curry, 25 E. Washington St., Julius Grinker, 25 E. Washington St., F. W. Gothro, 122 S. Michigan Ave. and M. M. Printz, 1235 Lake Park Ave.

Board No. 3I, with headquarters at Michael Reese Hospital, 29th and Groveland Ave., Chicago: Drs. Arthur R. Edwards, 104 S. Michigan Ave., Joseph C. Griedman, 29 E. Madison St., Solomon Strouse, 104 S. Michigan Ave., David Monash, 4735 S. Michigan Ave., L. A. Greensfelder, 104 S. Michigan Ave., Emanuel Friend, 5 N. Wabash Ave., E. Wyllys Andrews, 122 S. Michigan Ave., Walter S. Barnes, 29 E. Madison St., C. E. Kohlke, 25 E. Washington St., Thomas Faith, 31 N. State St., Mortimer Frank, 30 N. Michigan Ave., Ira Frank, 104 S. Michigan Ave., Harry Kahn,

30 N. Michigan Ave., L. E. Schmidt, 5 S. Wabash Ave., G. Carl Fisher, 2136 Indiana Ave., Sidney Kuh, 30 N. Michigan Ave., H. H. Schuhmann, 25 E. Washington St., E. K. Fishell, 108 N. State St., Chicago, Ill.

Board No. 3J, with headquarters at Englewood Hospital, 6001 Green St., Chicago: Drs. E. T. Olson, 6810 S. Union Ave., B. J. Simpson, 6340 Halsted St., F. J. Lesemann, 800 W. 78th St., C. H. Lovewell, 6058 Wentworth Ave., E. E. Simpson, 6340 Halsted St., Carl Langer, 1232 E. 63d St., Wm. M. Harsha, 30 N. Michigan Ave., A. Augustus O'Neill, Columbia Hospital, M. L. Mendel, 1505 E. 53d St., J. S. Kauffman, 242 York, Blue Island, Charles T. Murphy, 1105 E. 63d St., Henry R. Boettcher, 6338 Harvard Ave., F. T. Avery, 29 E. Madison St., Henry G. Mundt, 6300 Halsted St., William T. Harsha, 30 N. Michigan Ave., Harry G. Hardt, 6860 S. Halsted St., Frank J. Hoppers, 6233 S. Halsted St., G. A. Miller, 6 N. Michigan Ave., Chicago, Ill.

District No. 4, embracing DuPage, Kane, Kendall and DeKalb counties, with headquarters at Aurora Hospital, Aurora, Illinois: Drs. Robert A. Windett, Francis J. Goughlin, Emmett L. Lee, Fred J. Garrison, James W. MacDonald, H. A. Brenneke, Wm. L. Murphy, George A. Darmer, Adam E. Sherman, Chas. R. Currier, Clarence C. Thomas of Aurora, Drs. Richard B. Oleson, James S. Rankin of Lombard, Dr. Frank H. Lord, of Plano, Dr. O. L. Pelton of Elgin, and Dr. George W. Nesbitt of Sycamore.

District No. 5, embracing Will and Grundy counties with headquarters at Hospital, Joliet, Illinois: Drs. John P. Benson, Roy B. Leach, Philip D. McGinnis, M. W. Cushing, A. J. Lennon, George F. Woodruff, Dr. Frank D. Rich, H. F. Latz, and S. Finley Duncan of Joliet, Drs. Hamilton T. King, H. M. Ferguson, L. J. Frederick, Peter G. Rulien, Grant Houston, Thomas H. Wagner, Arthur L. Shreffler, William G. Sachse of Morris.

District No. 6, embracing Whiteside and Lee counties with headquarters at Dixon Hospital, Dixon, Illinois: Drs. Clinton H. Ives, Clayton H. Bokhof, Chas. G. Kost, Edward S. Murphy, Edmund B. Owens, E. A. Sickles, K. B. Segner, Z. W. Moss, William McWhethy of Dixon, Drs. Chas. G. Beard, George Maxwell, William H. Perry, and Franklin W. Eskey of Sterling.

District No. 7, embracing Rock Island, Henry and Mercer counties with headquarters at St. Anthony Hospital, Rock Island and Lutheran Hospital, Moline: Drs. Frank H. First, William D. Snively, George C. Craig, Chas. F. Freytag, St. Elmo Sala, Chas. E. Robb, and C. L. Silvis of Rock Island, Drs. Albert M. Beal Elvan Sargent, Henry S. Bennett, Martin S. Dondanville, John W. Seids and Frank N. Davenport and John W. Gluesing of Moline, Dr. Frank D. Rathbun of New Windsor, Dr. E. B. Gilbert of Geneseo.

District No. 8, embracing LaSalle and Bureau counties, with headquarters at Illinois Valley Hospital, Ottawa, and Ryburn Hospital, Ottawa: Drs. Thomas W. Burrows, W. H. Jamieson, B. E. LaDue, L. E. Jordan, P. J. Wendel and Nicholas A. Guthrie of Ottawa;

Dr. Fred C. Taylor of Peru, Drs. A. C. Purcell, L. J. Quillan, Harry C. Hill of Streator, Dr. John H. Franklin of Spring Valley, and Dr. Walter W. Greaves of LaSalle.

District No. 9, embracing Knox, Warren, Henderson, McDonough, Fulton and Schuyler counties, with headquarters at St. Mary's Hospital at Galesburg, Illinois: Drs. John M. Bohan, Wm. O'R. Bradley, Clyde A. Finley, Geo. S. Bowen, B. D. Baird, Ralph O. Early, Ralph C. Matheny, F. W. Wolf, J. J. Hammond and H. F. Watts of Galesburg, Dr. Louis Becker of Knoxville, Dr. Ralph Graham of Monmouth, Dr. Geo. F. Ritchey of Bushnell, Dr. E. B. Bond, Stronghurst, Dr. C. M. Fleming, Rushville, Dr. C. N. McCumber of Lewistown, Dr. Joseph B. Bacon of Macomb.

District No. 10, embracing Peoria, Stark, Marshall, Putnam, Woodford and Tazewell counties with headquarters at Proctor Hospital, Peoria, Illinois: Drs. C. F. Farnham, George W. Parker, Elmer E. Nystrom, Geo. H. Weber, John E. Meloy, W. C. Williams, A. J. Kanne, William B. Wakefield, Albert L. Corcoran, C. B. Bronnell, L. R. Snowden, W. F. Wahlen and R. C. Willett of Peoria; Dr. E. B. Packer of Toulon, Drs. E. S. Gillespie, S. T. Glasford of Pekin, and Dr. H. A. Millard of Minonk.

District No. 11, embracing Livingston, McLean and DeWitt counties with headquarters at Brokaw Hospital, Bloomington: Drs. C. E. Chapin, W. E. Nuberger, L. B. Cavins, O. M. Rhodes, W. E. Guthrie, E. P. Sloan, E. B. Hart, G. B. Kelso, R. D. Fox, F. H. Godfrey, J. W. Smith, W. H. Land and S. B. Powers of Bloomington; Drs. Frank C. Bowden, John D. Scouler of Pontiac, Dr. W. H. Miner of Farmer City, Dr. E. E. Sargent of LeRoy, Dr. F. C. McCormick of Normal.

District No. 12, embracing Kankakee, Iroquois and Ford counties with headquarters at Kankakee State Hospital, Kankakee, Illinois: Drs. John R. Wilkinson, Howard L. Corbus, Joseph A. Guertin, Arthur L. Cagner, James A. Bundy, John A. Brown, Benjamin F. Uran, T. E. Carson, Chas. W. Geiger, Chas. R. Lockwood, James A. Bevan and C. W. Williams of Kankakee, Dr. J. Y. Shamel of Gibson City, Dr. R. E. McKenzie of Gilman, Dr. N. K. Boshell of Melvin, Dr. Geo. W. Ross, Watseka, and Dr. Chas. Ricksher at Hospital.

District No. 13, embracing Vermillion and Champaign counties with headquarters at Lake View Hospital at Danville: Drs. Robert Clements, W. R. Tenney, H. F. Becker, C. E. Wilkinson, A. M. Miller, R. L. Hatfield, H. L. Minnis, and J. D. Wilson of Danville, Drs. Cyrus F. Newcomb and Harlow V. Wilson of Champaign, Dr. James S. Mason of Urbana.

District No. 14, embracing Macon, Piatt, Moultrie and Christian counties with headquarters at Decatur and Macon County Hospital, Decatur: Drs. C. M. Jack, Chas. Martin Wood, M. P. Parrish, William Barnes, Clarence E. McClelland, Robert Z. Sanders, J. F. Waltz, and E. T. Evans of Decatur, Dr. Chas. M. Bumstead of Monticello, Dr. John T. Lawson of Sullivan and Dr. T. A. Lawler of Taylorville.

District No. 15, embracing Sangamon, Logan, Mason, Menard, Macoupin and Montgomery counties with headquarters at St. John's Hospital at Springfield: Drs. Geo. F. Stericker, C. W. Milligan, B. B. Griffith, S. E. Munson, W. A. Young, J. W. Kelly, I. W. Metz, Frank P. Norbury, E. E. Hagler, A. E. Prince, O. L. Zelle, E. F. Hazell, O. L. Frazee, and A. E. Converse of Springfield, Dr. Henry B. Brown of Lincoln and Dr. John D. Colt of Litchfield.

District No. 16, embracing Morgan, Cass, Scott, Greene, Jersey and Calhoun counties with headquarters at Passavant Memorial, Jacksonville: Drs. T. J. Pitner, Geo. H. Stacy, H. A. Chapin, J. W. Hairgrove, William Duncan, Pran A. Morris, A. L. Adams, A. R. Gregory, E. L. Crouch, W. B. Young and Alpha B. Appelbee of Jacksonville; Hugh R. Bohannon of Jerseyville, Dr. Albert R. Lyles of Virginia and Dr. H. H. Fletcher of Winchester.

District No. 17, embracing Adams, Hancock, Brown and Pike counties, with headquarters at Blessing Hospital, Quincy: Drs. Grant Irwin, L. H. Nickerson, Kirk Shawgo, E. B. Montgomery, C. A. Wells, Warren F. Pearce, W. D. Stevenson, F. M. Pendleton, and W. A. Trader, H. L. Whipple and Leroy Wolfe of Quincy; Dr. J. T. Spence of Camp Point, Dr. Chas. B. Dearborn of Mt. Sterling, Dr. W. P. Frazier of Carthage and Dr. S. B. Peacock of Pittsfield.

District No. 18, embracing St. Clair, Madison, Bond, Clinton and Monroe counties with headquarters at Henrietta Hospital and St. Mary's Hospital, East St. Louis, Ill.: Drs. R. L. Campbell, J. H. Fulgham, J. L. Wiggins, Fred Harvey Gunn, George C. Adams, Edward C. Spitze, Walter C. Wilhelmj, Chas. Wyckoff and Walter C. Smith of East St. Louis, Drs. Robert D. Luster, R. W. Binney of Granite City, Dr. A. F. Kasser of Highland, Dr. H. D. Cartmell of Greenville, Dr. E. A. Cook of Alton, Dr. M. W. Harrison of Collinsville, Drs. E. C. Ferguson, C. C. Corbett of Edwardsville.

District No. 19, embracing Effingham, Shelby and Fayette counties with headquarters at St. Anthony's Hospital at Effingham: Drs. Geo. B. M. Baker, Albert A. Bing, Chas. H. Wright, of Altamont; Drs. Clarence C. Holman, John C. R. Wettstein, S. F. Henry, Dr. Chas. F. Burkhardt, C. E. Bellchamber, and Stanley D. Hill of Effingham; Drs. Henry E. Monroe, O. C. Brown, Shelbyville; Dr. James M. Sparling of Moweaqua, Dr. A. E. Whitefort of St. Elmo, Dr. Thomas J. Dunn, of Dietrich, Dr. Mark Greer of Vandalia.

District No. 20, embracing Coles, Douglas, Edgar, Clark and Cumberland with headquarters at Memorial Hospital, Mattoon: Drs. Edward Edmund, J. F. Nolan, Albert T. Summers, Jas. B. Baker, C. B. Voight, C. E. Comer, and A. A. Powell of Mattoon; Drs. O. F. Barnes, and E. S. Allen of Arcola; Drs. Nathan Starr, R. H. Craig, N. C. Iknayan and J. W. Alexander, of Charleston; Dr. W. C. Blaine and Dr. M. E. Mollar of Tuscola; Dr. Roland Hazen of Paris.

District No. 21, embracing Richland, Jasper, Crawford, Clay, Lawrence, Wabash and Edwards, with headquarters at Olney Sanatorium, Olney, Illinois:

Drs. E. H. Homer, Henry T. Watkins, Geo. T. Weber, Frank J. Weber, Oliver C. Borah, and Walter Hopkinson of Olney; Dr. T. N. Rafferty, Dr. H. N. Rafferty, Dr. C. E. Price and Dr. Chas. L. Davis of Robinson; Dr. Chas. P. Gore of Lawrenceville, Dr. Chas. S. Brannan of Albion, Dr. Geo. W. Steely of Louisville, Dr. P. G. Manley, Dr. S. W. Schneck, Dr. John J. McIntosh of Mt. Carmel.

District No. 22, embracing Jefferson, Marion, Washington, Wayne, Franklin, Hamilton, White, Gallatin, Saline and Hardin counties, with headquarters at the Egyptian Hospital, Mt. Vernon, Illinois: Drs. W. H. Gilmore, W. R. Ross, John H. Mitchell, Andy Hall, J. W. Hamilton, E. E. Edmonson, R. C. Richardson, W. N. McAtee, of Mount Vernon, Drs. Otto D. Diehl, T. F. Gerould of Centralia, Drs. Byford H. Webb and A. T. Horn of West Frankfort, Dr. G. C. Buntin of Benton, Dr. J. C. Hick, Eldorado, Dr. A. B. Capel, Shawneetown, Dr. O. A. Kell, Salem, Dr. A. T. Horn, West Frankfort, and Dr. J. B. Moore, Ziegler.

District No. 23, embracing Jackson, Randolph, Perry, Williamson and Pope counties, with headquarters at St. Andrew's Hospital, Murphysboro, Illinois: Drs. L. R. Wayman, A. I. Brown, O. B. Ormsby, C. O. Molz, Chas. E. Riseling, H. H. Roth, Louis A. Minner, John L. Perry, W. F. Schade, J. C. VanOrnam, of Murphysboro, Dr. Elmer J. Bruch, DuQuoin, Drs. J. S. Templeton and David O. Mead of Pinckneyville; Drs. James W. Barrow and H. C. Mitchell of Carbondale, and Dr. Edward E. Woodside of Marion.

District No. 24, embracing Alexander, Union, Johnson, Pulaski and Massac counties, with headquarters at St. Mary's Hospital, Cairo, Illinois: Drs. Samuel D. Cary, Samuel Dodds, Flint Bondurant, James McMannus, J. W. Dunn, M. W. Balance, George R. Dodd, T. D. Morrison, Cairo, Dr. E. B. Hall, Anna.

CHRISTMAS GIFTS.

I've done my stunt as Santa Claus; with horsehair whiskers on my jaws, I ran the Christmas tree, and all the Christmas gifts in sight were reminiscent of the fight that's on across the sea. My little girl, Evangeline, drew down a large tin submarine and never raised a bawl; she said this instrument of crimes was more in keeping with the times than any sawdust doll. The baby drew a cartridge case and happy smiles lit up his face, where I expected tears; Aunt Sarah got a flashing blade and said for that she'd prayed and prayed for many weary years. One kid received a bright tin lance, and one a steed that couldn't prance, because its legs were oak, and there were soldiers made of zinc, lieutenants blue and colonels pink, and other warlike folk. There was no sign of peace on earth, oh, not a bogus nickel's worth upon that Christmas tree; my grandsire drew an aeroplane, and said a gift more safe and sane he surely ne'er did see. And e'en the candy stuff was wrought in shape of cannonball and shot and bomb and hand grenade, and as I ply my creaking pen I wonder if good will to men must permanently fade.—Walt Mason.

Correspondence

DR. WILGUS!—WHY?

To the Editor:

In the October issue of THE JOURNAL there appeared an article from the pen of Dr. Sidney D. Wilgus, entitled "State Hospital Straits." The paper was a repetition of several previous attempts by the Doctor to defame the Illinois State Hospitals. While visiting several of the New York institutions two years ago, my attention was repeatedly called to the bitter criticism made by Dr. Wilgus. At New Orleans, in April, 1916, he read a paper before the American Medico Psychological Association, which was very severe on the Governor and the Board of Administration of the State of Illinois. A year later at Chicago, the Doctor repeated his tirade. The last effusion was so caustic it clearly showed that he cannot be fair. His deductions, therefore, should not be taken seriously.

I cannot speak for all of the state hospitals: but I am anxious to present to the readers of THE JOURNAL the conditions at the Elgin State Hospital, referred to in no complimentary terms. Dr. Wilgus speaks in derision of "personal liberty and freedom." Would he go back to the old restraint methods?

The Doctor assures his prospective patients that boating, croquet, tennis and golf are pastime features! Yet he would deny the State Hospital patients these same privileges! Doctor: my own experience, as an assistant during Gov. Altgeld's administration, twenty-four years ago, convinced me of the *injustice of the restraint methods*. Returning as superintendent of this hospital in 1914, my *first work was the removal of all restraint measures*. Strapping patients to chairs, the use of straight jackets and strong suits, and the locking of patients in rooms were abolished. The ugly chairs were supplanted by easy chairs and rockers. The barren back wards were made homelike by the addition of rugs, flowers and pictures. The iron bars were removed from the windows. A more liberal parole policy was adopted. The female patients were allowed parole in groups of three to six. As a result of granting the patients more liberty and freedom, escapes were more frequent it is true: but this was to be expected. I believe the reader will agree with me, that the matter of

escapes is not so very alarming, since only three assaults, minor in character, were reported to have been made by escaped patients from the Elgin State Hospital during a period of three and a half years.

Parole privileges outside of the grounds were granted to a large number of the patients. It was an every-day occurrence to see from ten to twenty-five patients on the streets of Elgin. Their conduct was rarely criticized. In one of his many footnotes Dr. Wilgus states that escapes were not counted unless the patient is absent forty-eight hours. That is incorrect. Twenty-four hours is the time limit. The twenty-four-hour rule was made to eliminate from the records the names of a great number of patients reported to have escaped who were found within a few hours on the grounds or in the immediate vicinity of the hospital. The Doctor doubts figures, when they do not suit his purpose: and "he believes" that there were at least three hundred escapes from each of these hospitals, Kankakee and Elgin.

Dr. Wilgus attacks the use of packs as a means of restraint. He would be justified were restraint the intent of the physician who issued the order. But who is there to deny that it is one of the best methods of treatment? Dr. Frederick Peterson, a pioneer in the efficacy of hydrotherapy in the treatment of the insane, states that the hot wet-pack is most effectual, and widely applicable in all forms of sleeplessness, whether in nervous or insane individuals.

A pack is given in this manner: A blanket is spread on the patient's bed or pack table, and upon this a sheet wrung out dry after dipping in water at the desired temperature, is laid. The patient lies down upon this, the sheet being arranged and pressed closely around the whole body with the exception of the head. The blanket is then adjusted in the same manner. The rule at Elgin is to remove the patient after two hours in pack. Dr. Wilgus states that packs are a diabolical torture. Let the reader decide. I cannot understand how the Doctor arrives at the conclusion that accidents and injuries are due to the use of packs. He is unfair in quoting what this patient said, or that physician said. His paper reads like a sensational newspaper article. Institutional gossip is ripe when changes of administration occur and prospective changes in

management are imminent. At such times the anvil chorus get "real busy."

Under the heading of "Treatment," a staff member is quoted as saying, that he had too much work to do, and that he was only a "Pill Peddler." I dare say, this is the gentleman who ordered a patient in pack because he broke a pane of glass. This type of staff officer is usually watching the clock or consulting the calendar for days off and pay day. Unfortunately for the management, medical men of his stamp are responsible for the errors which cause criticism. The state hospitals furnish a splendid field for the energetic conscientious physician, as the wards are filled with cases of every conceivable form of mental and nervous disease. The "Pill Peddler," however, will be content to offer the staff a diagnosis of "Organic Brain Disease."

The statement is made, that owing to the excess of work required of the staff, patients must wait a month before treatment is started. This is the most absurd and ridiculous statement in the article. I will admit that the conditions he described may have existed during the administration of Dr. Wilgus at Elgin; but things have changed since then. Receiving wards have been established under the charge of trained nurses. Observation and treatment are started the very first hour after admission of patients. Conditions, therefore, are not so horrible to the patient and startling to the taxpayer as Dr. Wilgus would imply. The treatment accorded at Elgin will compare favorably with that in any other institution of the country.

Below is a summary of work done in the laboratory during 1916:

Wassermanns	312
Urine	1,357
X-ray plates	852
Milk, per cent. of fat.....	18
Guinea pig inoculations.....	37
Schick tests	125
Throat cultures	4,299
Autopsies	50
Blood counts	9
Sputum	42

The Wassermann was made on every patient admitted; and an examination of the spinal fluid was made in all those cases having positive blood. The great number of throat cultures made indicates the work which was necessary to eradicate diphtheria, epidemic at intervals. The patients showing positive reaction as carriers were placed

in isolation until three negatives had been secured. Latterly a throat culture has been secured from each new patient. There are two Psychopathic buildings at Elgin equipped with the most modern hydrotherapeutic apparatus. In addition there are two rooms in the main building, contagious to the receiving ward, where packs and continuous baths are given.

Under the heading of "Innovation in Medical Care," the Doctor states that he has no objection to the use of female attendants on male wards; on the contrary he should be most enthusiastic in its favor. All but three of the wards for men at Elgin were placed in charge of women, either senior attendants or graduate nurses. Women are more gentle in caring for these unfortunates, especially in the latter stages of dementia when their helpless state requires such close attention. With women in charge, there are fewer injuries; the sanitary and hygienic condition of the wards is much improved. Women are not expected to do any nursing service other than that performed by nurses in a general hospital. The bathing is taken care of by male attendants. The Doctor is unfair in calling attention to the neglect of one woman in looking after the care of the inmates of the untidy ward for men. The general results are splendid.

Ground paroles are attacked because some of the inmates escape, or because occasional violations of parole occur, and a patient gets drunk. Granting this to be true, ought the great majority be denied the privilege of outdoor sports and the breathing of fresh air? *Is it right to punish the insane?*

I was pleased to note that the years 1913 and 1916 were referred to as showing the increased escapes during the latter year. This is explained by the fact that all restraint measures were eliminated and a more liberal parole policy was adopted during the early part of 1914. At Elgin, the paroles were increased from 150 to 740. Only two escaped patients met their death during a period of three and a half years. One of these, an epileptic, fell on the tracks during a convulsion, and was run over by the cars. The other, a paranoiac, returned to his home several months after leaving the hospital, threatened his family, and was killed by a posse. (Dr. Wilgus called attention to the latter case, although it occurred three months after the presentation

of his paper). The newspapers will "play up" an attack by, or an accident to, an escaped patient, while the thousands of assaults by non-committed defectives will not be given mention.

The number of patients "not heard of" cited by the Doctor, can be explained by the fact that the relatives and friends do not co-operate with the hospital authorities in reporting the patient's arrival home. A field officer for each institution, (as recommended in my last report), would trace practically all of these patients to their homes.

A large number of physicians, as well as friends of inmates familiar with the conditions at Elgin State Hospital, appreciate the efforts made to get away from the "Group Treatment," so frequently mentioned by Dr. Wilgus. Personal attention to small classes of dementia praecox cases was carried out, the work of these patients being exhibited at the meetings of the American Medico Psychological Association at New Orleans in 1916, and at New York City this year. Two awards of merit were granted for this work by the committee in charge of the industrial exhibit. Stimulation by means of industrial pursuits was established. The rough prison made garments supplied to the inmates of both sexes were done away with, and shops were started for the manufacture of attractive and well fitting clothing. The gravel hills were converted into a pleasing nine-hole golf course. Clay modeling was introduced with splendid results. Table ethics were advanced by giving each patient a knife and fork instead of a spoon. Tinware was replaced by china. Linen table cloths were used instead of oil cloths. The menu was diversified and made attractive. These were some of the measures introduced in developing a personal interest in the patient.

As Dr. Wilgus is so caustic in attacking the apparent shortcomings in the management of the State Hospitals, would it not be fair for him to state to the readers of this JOURNAL just what was accomplished during his term as superintendent at Elgin to get away from the vile "Group Treatment"?

Such expressions used by the Doctor as, "Conditions are rotten," "Worst conditions in the country," "The service has received a terrible jolt," "Pack or death," merely indicate his per-

sonal opinions, very much biased, and not borne out by facts.

Before closing, I would say that Dr. Wilgus and I are personal friends, and for that reason I have endeavored to avoid personalities. I have the most profound respect for the Doctor as an alienist and a gentleman. I cannot, however, fathom his motives in persistently attacking the Illinois Institutions. The Doctor was honored as a citizen of New York in being appointed as Superintendent at Elgin, and later at Kankakee, but since his separation from the service, he seems to have taken a keen delight in attacking the Illinois methods. Why? Dr. Wilgus! Why?

H. J. GAHAGAN,

22 E. Washington St.

CAUSES OF INSANITY—CONTINUED

The state would, therefore, do well to establish a country home for its alcoholics and drug addicts where they could be kept under strict supervision for such periods of time as might seem indicated in each case. Such a home should have connected with it a large farm and perhaps mills and factories so as to furnish sufficient useful employment for these unfortunates no matter whether alcohol is the cause or whether the craving for it is simply one of the many manifestations of morbid mental processes.

Society Proceedings

ADAMS COUNTY

The annual meeting of the Adams County Medical Society was held December 10, 1917, at Hotel Quincy. Meeting called to order by First Vice-president Dr. C. E. Erickson. The minutes of October and November meetings were read and approved.

Annual reports of treasurer and secretary read and placed on file.

It was moved and seconded that the dues of members in the Army and Navy Service be remitted during their time of service. Carried.

The following officers were elected for the year 1918: President, Dr. C. E. Erickson, Quincy; first vice-president, Dr. W. D. Groves, Ursa; second vice-president, Dr. A. M. Austin, Mendon; secretary, Dr. Elizabeth B. Ball, Quincy; treasurer, Dr. J. H. Blomer, Quincy; censor, Dr. E. L. Caddick, Quincy, 3 year term; defense committee, Dr. John A. Koch, Quincy; alternate delegate, Dr. J. H. Pitman, Camp Point;

trustees, Dr. W. H. Baker, Quincy, 3 year term, and Dr. A. W. Werner, Quincy, 1 year term.

By a motion which prevailed, the meeting place was changed to the Elks Club Rooms. Luncheon followed the meeting.

ELIZABETH B. BALL, Secretary.

COOK COUNTY

Chicago Medical Society Regular Meeting, December 5, 1917

- 1. Diagnosis of the Fetal Age by X-Ray. (Lantern Slides).....Julius H. Hess
Discussion—Roy P. Moodie and Jos. L. Baer
- 2. Dementia Precox Studies from the Research Laboratory of the Psychopathic Hospital.
 - (a) The Psychiatry of Dementia Precox... Herman Campbell Stevens
 - (b) The Laboratory Findings in Dementia Precox.....Julius Retinger, Ph. D.
 - (c) Toxins of the Colon, Typhoid Group.. Enrique Ecker, Ph. D.
 - (d) Exhibition of Patients....Bayard Holmes
 Discussion—Hugh T. Patrick and E. S. Blaine
- 3. The Medical Reserve Officer With the National Army.....Major P. J. H. Farrell
Regular Meeting, December 12, 1917

- 1. Presentation of Cases.....D. N. Eisendrath
Cases operated for lung abscess following tonsillectomy, for metastatic lung abscess, various kidney lesions, presentation of specimens illustrating experimental surgery of the gall bladder.
- 2. The Post-operative Treatment of Surgical Cases.....A. J. Ochsner
Discussion—Weller VanHook and Carl Beck

Regular Meeting, December 19, 1917

- 1. The Open Method of Etherization.....Isabella C. Herb
Discussion—Arthur Dean Bevan
- 2. Infections of Oral Origin. Illustrated with Lantern Slides.....Truman W. Brophy
Discussion—A. J. Ochsner, T. L. Gilmer and J. P. Buckley

CHICAGO OPHTHALMOLOGICAL SOCIETY.

Meeting of October 15, 1917, Continued.

He has had something occur in the last year which upsets completely some of the ideas of fusion and improvement of vision, and so on, in squint. He has had under observation for three years and a half, a child who came when four years of age, who has been using the amblyoscope and has developed parallelism, binocular vision and had improved vision in the squinting eye to 20-40 or 20-30. The child was going along nicely, and was for some reason not seen for a year. When he came back, in spite of the fact that he had parallelism; the squinting eye had degenerated in vision to 20-180ths. Still the eye is so perfectly straight that one cannot discern any squint, and at the time he had seen the child a year previously, he was able to fuse with the amblyoscope and further than that, with a test he showed binocular vision.

DR. LEIGH E. SCHWARTZ stated that he has found in certain cases that a patient can run to the opposite side of the amblyoscope from five to ten degrees and still maintain persistently a certain amount of squint. In one case he reduced the squint to seven degrees, which remained at this point, notwithstanding the fact the patient fused by means of the amblyoscope ten degrees on the opposite side. He thought that was rather remarkable and interesting.

He recalled the case of a patient, three and a half years old when first seen, whom he had under observation for three years. At the beginning the patient had 20-200 in one eye, and 20-70 plus in the other, and twelve months later the patient got 20-30 plus in one eye and 20-30 minus in the other and has that at present. This case shows what can be done in raising visual acuity.

DR. VON DER HEYDT, in closing the discussion, stated that his object in bringing up the subject was to emphasize the duty of the ophthalmologist towards these children. It is not enough to refract them, give them glasses, and bless them on their way, but the squinting eye must be followed. How one can measure visual acuity in a young child when it does not know numbers, he could not see. The child should be taught numerals, and the average child, two or three years old, could be taught numbers.

As to the use of the amblyoscope, he could not conceive of one being able to so interest a child of the age mentioned with pictures. One might show children pictures, any many children will see the canary bird in the amblyoscope with one eye and nothing with the other. Another child may see the bird cage with the one eye and hardly a bird with the other, and how one can so influence a patient so young to draw a bird into the cage more than a few times with a child two or three years old, he could not understand. He had never bought an amblyoscope and therefore he was quite neutral as to its value.

The most promising type of cases were evidently those that have, for instance, high astigmatism in one eye.

He thought Dr. Faith tried to differentiate unnecessarily between the ability to develop fusion and parallelism. No doubt, they are two separate and distinct things. If we create parallelism, and fusion does not develop, there is nothing that can be done further except to continue to develop the visual acuity of the bad eye by the methods he outlined in his paper.

The speaker recalled to mind, another case of a child two and three-quarter years old, brought to him eight years ago with six and a half dioptres of hypermetropia. The parents have refused to give the child glasses. He saw a picture in the papers of how this child had been wonderfully cured on State Street recently. One could therefore see what becomes of these children, when they are neglected by their parents.

PROJECTION DEMONSTRATION OF SPECIMENS OF SYMPATHETIC OPHTHALMIA CONTRASTED WITH OTHER FORMS OF UVEITIS.

DR. E. V. L. BROWN presented specimens of three cases of sympathetic uveitis seen in this clinic during the past year; one of which followed a trephining, another rupture of the margin of the cornea after a spontaneous thinning and ectasia, and the last a penetrating injury.

Cases of ordinary fibrino-plastic and suppurative uveitis were shown; also specimens of cases of tuberculosis of the choroidea, discrete tubercles, gummata of the iris, and disseminated chorio-retinitis from acquired syphilis.

A DEVICE TO IMMOBILIZE THE HEAD AND EYELIDS DURING OPERATION ON EYEBALL.

DR. E. R. CROSSLEY presented a device for the purpose of immobilizing the head and eyelids during an operation on the eyeball. He stated that many forms of lid specula had been devised for controlling the eyelids during operative procedure on the eyeball, most of which depended upon the force of a spring of some character to retract the lids. All of these devices had their weakness in their frailty and the fact that the patient "can squeeze the eyeball itself" with the lids and actually throw the speculum out of the eyes during operation.

With this ordinary form of specula, the routine procedure before doing a cataract extraction, after placing the patient in position on the table, was to talk to him to get control and his confidence and attempt to exert a hypnotic influence on his mind. If he happened to be a good patient, the surgeon succeeded. If nervous and irritable, as most were, he might roll the head to one side at the critical moment, when the knife was through the anterior chamber, and interfere seriously with the incision or cause the operator to do serious damage to the eye with the knife, if he did not dexterously follow the movement of the head.

The most serious damage might come after the incision was completed and the anterior chamber was open. He might squeeze violently enough to throw out the lens and vitreous through the opening and lose the eye entirely. Then the patient was told that it was his own fault for he squeezed. This was not a true statement, for the act was largely involuntary on his part, and we, as operators knowing to be such, were responsible and should take some positive means to control the patient so that such mishaps were impossible.

Undoubtedly this common accident had occurred to all who were doing an extensive amount of this kind of work.

In the presentation of this appliance for the immobilization of the head and eyelids during operations on the eyeball, the author offered a mechanical device that took complete control of the head and eyelids more effectively and efficiently than a trained assistant could possibly do.

With this head clamp and eyelid retractor, the operator could go to his operation with a feeling that no accident was going to occur to detract from his good results, and that he could positively assure his patient that he could not move and injure himself during the operation.

This reassured his mind and inspired confidence in the operator obtaining a perfect control of the situation that was impossible to obtain otherwise.

The apparatus consists of two parts, the base and the superstructure or framework carrying the lid hooks.

The apparatus was described in detail and illustrated with four figures.

DISCUSSION.

DR. EDWARD F. GARRAGHAN said that he had practical experience last spring with the use of the apparatus exhibited in a cataract extraction and was surprised to see how efficient it was. There was no movement of the head whatever. He thinks every hospital should have such an apparatus and try it out.

DR. THOMAS O. EDGAR, Dixon, Illinois, stated that he recently had the opportunity to use the instrument in connection with the extraction of a cataract. He had seen Dr. Crossley use it in a number of cases at the infirmary, and in all such instances it immobilized the head and lids and prevented squeezing of the eyeball.

It would be wise to have a little preliminary practice in the adjustment of the apparatus with particular reference to the carrier for the lid specula, because in the instance in which he used it, the head was a little too low, so as to restrict somewhat one's working space. If attention is given to this, that feature will probably be overcome.

The instrument should be especially valuable to those ophthalmologists who have not a regular and well trained assistant.

DR. OLIVER TYDINGS said it occurred to him that there was one defect in the instrument exhibited, and that is, the power to control the occipito-frontalis muscle. He could not conceive of any instrument, outside of the human hand, which could control the movement of this muscle in the use of a lid retractor. He asked Dr. Crossley in how many cases he had used it.

DR. CROSSLEY, in replying to the question as to the length of time he had used the instrument, stated that it had been used since last January. He did not know the exact number of cases in which it had been used. However, it had been used frequently and satisfactorily at the infirmary.

MAJOR S. WORTHINGTON, Sec.,
22 E. Washington St.

CHICAGO OPHTHALMOLOGICAL SOCIETY.

A regular meeting was held November 19, 1917, with the president, Dr. Paul Guilford, in the chair.

DR. ROBERT VON DER HEYDT gave a demonstration of a corneal loupe.

UNILATERAL EXOPHTHALMOS.

DR. OSCAR DODD reported a case of proptosis which was first noticed on the 4th of July by the patient. The eye was proptosed fully 5 millimeters, with no other symptoms whatever. At first, he thought it might be a case of exophthalmic goiter showing in one eye, but all symptoms of Graves' disease were absent except the proptosis. After going into the history of the case he found that about a month before this was noticed the boy was hit on the side of the head quite a severe blow with the flat of the hand, causing considerable trouble with the ear on that side for two or three weeks. There are cases of proptosis due to an interference with the sympathetic, but it has never been the author's privilege to see unilateral proptosis after such an injury. He has not had time to look up the literature and has not fully concluded as to the cause of the condition. If any of the members had had experience with such cases and could throw any light on the subject, he would be very much obliged to them. There is no muscle disturbance. Vision and motion are normal, and there is nothing except the proptosis which is less after having the eye closed at night.

MADISON COUNTY

The Madison County Medical Society met at the Court House in Edwardsville, on Friday, November 2, 1917, at 2 p. m. In the absence of the president, Dr. Mather Pfeiffenberger, of Alton, was called to the chair. Twenty-five members and one visitor were present.

Dr. Ellsworth Smith, Jr., of St. Louis, read a paper on "The Value of Tuberculin in the Treatment of Pulmonary Tuberculosis." It was a careful resume of this agent from the date of its discovery up to the present. It gave valuable statistics gathered from all parts of the world, showing its therapeutic value. Dr. Smith presented many case reports and concluded by asserting his confidence in the remedy if administered at the proper time and in proper doses.

A vote of thanks was tendered the speaker and the society adjourned to meet in annual session at Alton on the first Friday in December.

OGLE COUNTY

The Ogle County Medical Society met in regular session in the Court House at Oregon, October 17, 1917.

Dr. J. M. Beveridge called the meeting to order and was elected chairman in absence of the president.

Roll call found ten members present. Visiting physicians seven.

PROGRAM.

Dr. C. W. East, of Evanston, identified in an official capacity with the State Board of Health, gave an exceedingly instructive lecture on Infantile Paralysis. Dr. East dwelt on the phase of an early diagnosis and treatment. He mentioned certain specific symptoms that manifested grounds for suspicion, among them, headache, moderate fever accompanied by pain and failure of muscular action. He emphasized extreme care not to overwork the muscles subject to paralysis too early. While not skeptical regarding the use of serum, he did not believe that any cure on this angle has been found to combat this formidable disease.

Dr. Geo. P. Gill, of Rockford, gave in graphic terms the opportunity afforded by his subject, "Surgery," from actual observation in a base hospital in France. Dr. Gill dwelt upon the morbid phase of the work involving the surgical care of the wounded men. He discussed fully gas wounds and tetanus and the treatment that is now being used in the various base hospitals in France.

Miss Mary E. Wilson, of the State Board of Health, who for the past few weeks has been investigating tuberculosis conditions in Ogle County, presented statistics showing the prevalence of tuberculosis and outlining the plans of the department regarding prevention and cure of the disease.

Dr. L. A. Beard, of Polo, directed attention to the importance of persistence in the effort to eradicate the disease and to the need of larger financial resources to accomplish such purpose.

Business session followed a rising vote of thanks given Drs. East and Gill for their able assistance.

Dr. Chas. Best, of Freeport, was elected to membership.

Adjourned to meet at Polo the third Wednesday in April, 1918. DR. J. T. KRETSINGER, Secretary.

Resolutions adopted by the Ogle County Medical Society at their meeting October 17, 1917:

OREGON, ILLINOIS.

WHEREAS, The Illinois Department of Public Health, The Illinois Tuberculosis Association and the Board of Directors of the Ogle County Tuberculosis Sanatorium are organizing a campaign of education in Ogle County for the prevention of Tuberculosis and the final elimination of the disease in the State of Illinois, be it

Resolved, That the physicians composing the Ogle County Medical Society endorse their action and pledge to this movement their heartiest co-operation and support.

Resolved, That we commend the work done in the county by Miss Mary E. Wilson, a state community nurse, as timely and as promising permanent results in bringing about more rational ideas and knowledge of good health conditions among the people of our community, assuring her of our gratitude by assisting her successor, who is to be employed during the coming year by the Ogle County Tuberculosis Sanatorium Board, with her work in visiting and advising the Tuberculosis cases in the county and also in teaching the school children all over the county of the importance of personal hygiene and of better living conditions for the maintenance of good health; be it also

Resolved, That we co-operate and assist in establishing a Tuberculosis Dispensary or Dispensaries in the county.

A. H. BEEBE, M. D., President.

J. T. KRETSINGER, M. D., Secretary.

Board of Directors of Ogle County Tuberculosis Sanatorium:

DR. L. A. BEARD, Polo, President.

MR. A. W. BRAYTON, Mt. Morris, Vice-Pres.

MRS. ANNA G. GRAGAM, Rochelle, Secretary.

MISS MAHIN, Oregon, County Visiting Nurse.

Medical Director Tuberculosis War Defense, Ogle County Committee:

DR. A. H. BEEBE, Stillman Valley, Ill.

VERMILION COUNTY

The regular annual meeting of the Vermillion County Medical Society was held in the Chamber of Commerce building December 10, 1917.

Election of officers as follows: President, O. H. Crist, Danville; vice-president, C. E. Brown, Ross-ville; secretary-treasurer, E. E. Clark, Danville.

E. B. Coolley, President of the State Medical Society, gave a talk on membership and quality of societies.

Twenty members present.

Adjourned. SOLOMON JONES, Secretary.

Personals

Dr. Melvin L. Hole, M. R. C., of Danville, reported at Ft. Riley, December 17.

Capt. Lorin C. Collins, of Chicago, is adjutant at the Chanute field hospital.

Dr. Hall Whitaker, M. R. C., of Mound City, reported at Ft. Riley, December 26.

First Lieut. Edgar P. Cook, M. R. C., of Mendota, is located at Ft. Riley, Kansas.

Lieut. Walter Mix, M. R. C., of Beardstown, was ordered to report at Ft. Riley, December 12.

First Lieut. A. N. Mackey, M. R. C., of Aledo, has reported for duty at Ft. Robinson, Nebraska.

Major Eugene G. Clancy, Chicago, has been made director of field hospitals of the division.

Dr. and Mrs. C. F. Bradway, of Abingdon, are spending the winter on their ranch near Pasadena, Cal.

Dr. Edwin L. Winslow, Danville, was acquitted of charges of causing death by a criminal operation.

Capt. F. W. Broderick, M. R. C., of Sterling, is directed to take a course in brain surgery in Philadelphia.

Lieutenants G. F. Harris of Easton and Russell R. Tomlin of San Jose have been called to Ft. Riley, Kansas.

Dr. C. W. Hanford, of Chicago, read a paper before the Winnebago County Medical Society Dec. 11, 1917.

Capt. H. B. Roberts, M. R. C., of Highland Park, is stationed with the Field Artillery at Camp Taylor, Ky.

Major Richard J. McDonnell, Chicago, has resigned as medical adviser of the One Hundred and Eighth Engineers.

Lieut. Wallace A. Belsey, Belvidere, medical director with the British Forces, is reported to have been wounded.

Dr. J. Gahagan has been appointed medical director of the Mercyville sanitarium near Aurora. He will reside in Elgin.

Capt. Frank C. Sibley, of Carmi, was ordered to Washington University to take a special course in brain surgery last month.

A. L. Sprenger, H. E. Cooper and F. A. Maurer, of Peoria, have been commissioned first lieutenants in the Medical Reserve Corps.

Dr. Clara E. Hayes of the medical staff of the Peoria State Hospital has been appointed superintendent of the State Training School for Girls, Geneva.

Col. Henry I. Raymond, M. C., U. S. Army, Fort Mason, Cal., has succeeded Colonel Stephenson as department surgeon, Central Department.

Capt. A. C. Campbell, M. R. C., former superintendent of the Watertown hospital, has been stationed at the army hospital at Chillicothe, Ohio.

Dr. Caroline Hedger gave an address on "War Orphans and Their Care" before an Infant Welfare meeting at Northwestern University, December 12.

Capt. D. F. Morton, M. R. C., as a member of the Ottis hospital unit, was a guest of the Sangamon County Medical Society at a dinner dance December 10.

Dr. D. M. Olkon, Chicago, addressed the North Shore Civic Alliance, Dec. 17, on "Psychology in Its Legal, Economic, Medical, Esthetic and Religious Aspects."

Dr. J. P. Johnson, formerly of Colgate, Canada, recently purchased the office and equipment of the late Dr. F. B. Lovell of Gibson City, Ill., and is now practicing in that city.

Dr. J. F. Percy, of Galesburg, was elected president of the Western Surgical Association at Omaha, last month. Dr. D. N. Eisendrath of Chicago was elected first vice-president.

Capt. C. G. Miner of the Canadian Medical Corps, formerly of Galesburg, resigned a commission in the American army, thinking he would see action earlier with the Canadians.

Dr. Vera V. Norton, for four years resident physician of the Edward Sanitarium, Naperville, has been appointed one of the superintendents of the Cincinnati Tuberculosis Sanitarium.

Dr. J. A. Rutledge, manager of the Woodman Sanitarium at Woodman, Colo., reports plans under way to provide quarters for many soldiers expected to acquire tuberculosis in the service.

Col. William Stephenson, M. C., U. S. Army,

department surgeon, Central Department, has been transferred to a similar position in the Eastern Department, with station at Governor's Island, N. Y.

Dr. C. W. Hanford, Chicago, spoke before the Winnebago County Medical Society at Rockford, Ill., on the evening of December 11, the subject being "Radium—Its Position as a Therapeutic Agent Today."

Dr. George N. Kreider, of Springfield, addressed the Western Surgical Association at Omaha, Dec. 17, on "The Cause and Prevention of Gastropnoia, and Its Treatment by the Rovsing Method."

Dr. Herman M. Adler, Chicago, criminologist of the state department of public welfare, is head of the Voluntary Mental Hygiene Consulting Commission, which was opened December 17, at the Cook County Psychiatric Hospital.

Memorial services were held in the First Presbyterian Church, Freeport, November 25, under the joint auspices of the church and Masonic fraternity, in memory of Lieut. Orlando M. Gochnaur, M. R. C., who was killed in action while attached to the British Expeditionary Forces in France. A popular subscription has been appointed in Freeport for the erection of a monument for Dr. Gochnaur.

News Notes

—The Morgan County Medical Society gave a "Semi-Centennial Anniversary Dinner" at the Colonial Inn, Jacksonville, December 20.

—A fire, presumably of accidental origin, destroyed the new warehouse of the medical supply depot at Fortieth and Federal streets, with a loss of about \$100,000.

—Sixty medical women of Chicago were guests of the Medical Women's Club of Chicago and the After Dinner Club at the College Club, December 12. A dinner and entertainment made up the program.

—Capt. Robert E. Brookes has enlisted more than 300 students of medical, dental and veterinary schools into the medical reserve corps. These men can finish their college course before they will be called into active service.

—How would you like to bring suit against a supposed sucker for "services and instructions" as a Christian Science student to the tune of \$12,150, and then have an official of that organization testify that you were not a member? Would not that jar you?

—At the annual meeting of the Polish Medical Society, held Dec. 28, 1917, the following officers were elected for the ensuing year: Dr. W. A. Kuflewski, president; Dr. A. Balcerzak, vice-president; Dr. A. Pietrzykowski, treasurer, and Dr. Felicia Cienciara, secretary.

—Oscar E. Hewitt, of the Chicago *Herald*, after a careful study of the medical staff at Camp Grant, wrote that not one family in a hundred, on the average, could afford to employ the expert specialists in case of sickness that were offering their services to the army for a small fraction of the income they earn in private practice.

—We are informed that the item in the December JOURNAL stating that the question of changing the name of "The German Hospital of Chicago" to "The General Hospital of Chicago" was voted down was an error. Our informant states that the "question did not come before the meeting, no discussion was held, no vote taken."

—The Army Dispensary formerly in the Federal Building was moved, December 22, to its new quarters at 820 Michigan Boulevard Building. Major Samuel C. Stanton, M. R. C., is in command and has as his assistants Capt. Albert H. Rober, M. R. C., and Lieuts. Claude H. Ogden, M. R. C., Roy R. Haley, M. R. C., and Charles B. Gibson, M. R. C.

—Dr. Herman M. Adler, criminologist of the State department of public health and director of the Juvenile Psychopathic Institute of Cook County, has recently opened a consulting service in child psychology at the psychopathic hospital. This service is for the benefit of parents, children, courts, police, teachers, probation officers, social and correctional agencies.

—At the twentieth regular meeting of the Chicago Society of Internal Medicine, December 17, the program included papers by Dr. Lewis J. Pollock and William Cluney, on "Vital Stains and

Central Nervous System"; by Dr. Arthur F. Beifeld on "An Etiologic Phase of Pernicious Anemia," and by Drs. Rollin T. Woodyatt and William D. Sansum, on "Treatment of Mercuric Chlorid Poisoning: An Experimental Study."

—The Chicago *Tribune*, said to be aided and abetted by the U. S. postal authorities and the State Board of Education and Registration, has recently started another lively crusade against the advertising quacks in Chicago. The previous crusade caused the English language newspapers to cut out the quack ads., which have since that time infested the foreign papers, as shown by Dr. Krasnow in the November JOURNAL. Under the new powers of the State Board it would seem possible to revoke licenses for flagrant quackery.

—East St. Louis physicians have divided the day into four "shifts" for fee-bill purposes. Thus from 8 a. m. to 5 p. m. the ordinary fee will prevail. From 5 to 10 p. m. and from 6 to 7 a. m. the fee will be \$3. From 10 p. m. to 6 a. m. it will set the patient back \$5 per to see the Doctor. It seems that ought to make the punishment fit the crime. In some districts it is cheaper to call a physician to take a person out into the country in his machine than to hire a liveryman! Think of it.

—A medical unit and an ambulance unit have been mustered into the State service. The first unit of the Medical Corps is headed by Major Charles E. Boynton, and consists of Capts. E. Stillman Bailey, and Hugh R. Scofield, and Lieuts. Adrian R. Karreman, Ralph R. Holmes, John G. Campbell, James L. Smith and William J. Timmer. The ambulance company is commanded by Capt. C. M. Price, and is assisted by Lieuts. Guy E. Beard, W. S. Hubbard and R. I. Humphrey. The ambulance unit was enlisted from the employes of the McCormick plant of the International Harvester Company, which donated the ambulance and equipment to the organization.

—The attorney-general of Illinois has given an opinion to the State Department of Public Health to the effect that under the Illinois sanatorium law, counties which have made tax levies for sanatorium purposes, and which need the money now to proceed with their plans, may lawfully anticipate the 1918 spring tax collections with

warrants drawn for immediate use. It has also been held, however, that counties which made their sanatorium levies in September cannot at any later meeting during the year increase the levy. Another holding is that where counties have made levies for sanatorium purposes, but have not sufficient funds to build a county sanatorium, such counties may pay out of the sanatorium fund the expenses of persons sent to sanatoriums in other counties of the state, but not outside the state.

—A medical unit and an ambulance unit of the Illinois Voluntary Training Corps have been mustered in by Lieutenant Colonel J. R. Kline from the ranks of Cook County medical men. The first unit of medical corps is headed by Major E. E. Boynton. His staff consists of Captain E. S. Bailey, Captain Hugh R. Scofield, First Lieutenants A. R. Karreman, Ralph R. Holmes, John C. Campbell, J. L. Smith and William F. Rimes. The ambulance corps is commanded by C. M. Price as captain, with a staff consisting of First Lieutenants C. E. Beard, W. S. Hubbard and R. I. Humphrey.

There are sixty-eight enlisted men, with two ambulances and complete field equipment. They were enlisted from the McCormick plant of the International Harvester Company. The ambulances and equipment were donated by the company.

—Hundreds of Chicagoans are included in a list of newly commissioned reserve officers announced by the war department Dec. 21.

MAJOR, MEDICAL CORPS

D. W. Rogers, 5120 Greenwood avenue.
J. Ridlow, 7 West Madison street.
S. Strauss, 5039 Michigan avenue.
S. C. Plummer, 4539 Oakenwald avenue.

CAPTAIN, MEDICAL CORPS

D. B. Phemister, 5465 Hyde Park boulevard.
H. N. Jackson, Fort Sheridan.
W. D. Naphiers, Jr., Hyde Park Hotel.
C. J. Swann, 77 East Washington street.
L. C. C. Collins.
W. P. McGibbon, 29 East Madison street.

FIRST LIEUTENANT, MEDICAL CORPS

F. F. Schwartz, 2829 Cambridge avenue.
William J. Zigler, 7852 South Halsted street.

J. E. Stanton, 3400 Lawndale avenue.
 L. H. Stern, 8456 Buffalo avenue.
 W. I. Silverstein, Michael Reese hospital.
 A. P. M. Sandahl, 3350 Seminary avenue.
 B. J. Schwartz, Waukegan.
 F. J. Schick, 5105 Union avenue.
 J. F. Schick, Cook County hospital.
 J. E. Jaros, 2901 West Twenty-first street.
 A. E. Jones, Michael Reese hospital.
 M. A. Newhauser, 4545 Michigan avenue.
 L. Savitsky, 4720 West Twelfth place.
 O. J. Schott, 3424 Sheffield avenue.
 H. A. Ramser, 2825 Logan boulevard.
 G. H. Schroeder, Oak Park.
 Y. Joranson, 6423 Ingleside avenue.
 F. J. Corpor, St. Luke's hospital.
 R. M. Johnson, 3314 Lawrence avenue.
 W. C. Martini, 1338 Newberry avenue.
 M. R. Broman, Cook county hospital.

—*The Pacific Medical Journal*, the oldest journal on the Pacific coast, which has just completed its 60th volume, has been acquired by Dr. William J. Robinson, and will be consolidated with *The American Journal of Urology and Sexology*. The combined journal will continue under the editorship of Dr. Robinson, and will be published from Mt. Morris Park West, New York City.

Marriages

LIEUT. FREDERICK CHRISTOPHER, M. R. C., U. S. Army, Mobile Surgical Unit, to Miss Madeline Smith, both of Chicago, December 1.

FRED MILLER DRENNAN, M. D., Chicago, to Miss Esther Olive Clay, of Quincy, Ohio, recently.

JAMES A. KIERNAN, M. D., Chicago, to Miss Grace Cole, of Alton, Ill., December 10.

Deaths

LEONIDAS B. MARTIN, M. D., Peoria, Ill.; Rush Medical College, 1868; aged 72; died at his home, November 2.

WILBUR F. CURTIS, M. D., Chicago; Bennett Medical College, Chicago, 1890; aged 63; died at his home, December 9, from heart disease.

ELBRIDGE A. HERRIMAN, M. D., Chicago; Victoria College, Toronto, Ont., 1860; aged 83; died at the home of his son in Chicago, November 28.

WILLIAM H. COLE, M. D., Kewanee, Ill.; Long Island College Hospital, Brooklyn, 1873; aged 79; a member of the Illinois State Medical Society; died at his home, November 29.

HENRY A. CRAWSHAW, M. D., Bush, Ill.; St. Louis College of Physicians and Surgeons, 1895; aged 47; was instantly killed in an automobile accident at Carbondale, Ill., November 7.

ELIAS B. MESIROW, M. D., Chicago; College of Physicians and Surgeons, Chicago, 1894; aged 56; formerly a Fellow of the American Medical Association; died at his home, December 10, from lobar pneumonia.

ALBERT LEROY WARD, M. D., Bement, Ill.; Chicago Homeopathic Medical College, 1899; aged 47; formerly a member of the Illinois State Medical Society; died in Decatur, Ill., September 21, from typhoid fever.

JAMES NELSON HARRIS, M. D., Chicago; Indiana Medical College, Indianapolis, 1907; a Fellow of the American Medical Association; a colored practitioner; was shot and killed in his office by his fiancee, November 15.

RICHARD LEONARD ELDRIDGE, M. D., Bonfield, Ill.; College of Physicians and Surgeons, Chicago, 1903; aged 51; a Fellow of the American Medical Association; died in Minooka, Ill., November 29, from pneumonia.

WILLIAM ALDER SMITH, M. D., Galena, Ill.; Northwestern University Medical School, Chicago, 1897; aged 45; a member of the Illinois State Medical Society; died at Council Hill, Ill., November 17, from asthma associated with heart disease.

SAMUEL MARCUS MOORE, M. D., Evanston, Ill.; Chicago Homeopathic Medical College, 1895; aged 47; a Fellow of the American Medical Association; from 1903 to 1914, chief surgeon of the Illinois Steel Company; died in the Greenwood Inn, Evanston, December 12, from pneumonia.

JONATHAN MILTON WYLAND, M. D., Moline, Ill.; State University of Iowa, Iowa City, 1886; aged 59; president of the Moline Foundry Company, who had been ill for two years with spinal disease, due to an accident; died at his home, November 29, four weeks after a surgical operation.

ALBERT STONE GRAY, M. D., Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1887; College of Physicians and Surgeons, Chicago, 1889; aged 53; for several years a contributor of articles on health topics to the daily press; died in St. Luke's Hospital, Chicago, December 17, from anemia.

JOHN WILLIAM BAKER, M. D., Granite City, Ill.; St. Louis University, 1911; aged 31; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; while driving his automobile over a grade crossing at Madison, Ill., November 30, was struck by a Wabash passenger train, and died two hours later at St. Elizabeth's Hospital, Granite City.

Book Notices

FOOD FOR THE SICK. A Manual for Physician and Patient. By Solomon Strouse, M. D., Associate Attending Physician, The Michael Reese Hospital; Professor of Medicine at the Post-Graduate School, Chicago, and Maude A. Perry, Dietitian at the Michael Reese Hospital, Chicago. 12mo of 270 pages. Philadelphia and London: W. B. Saunders Company. 1917. Cloth, \$1.50 net.

This volume on food for the sick may well be used by every physician. Correct feeding of the sick is an art, and is accomplished by only a few. Many physicians—nay, most physicians, give general orders for a patient, such as soft diet, semi-soft or liquid diet, and may direct that the patient have certain articles of food, but seldom can one give the detailed articles of food wished or the preparation of them—one no more important than the other.

This also is an excellent book for the nurse. It is practical, is not burdened with long theories, and is written in a readable way. We recommend it.

THE TREATMENT OF INFANTILE PARALYSIS. By Robert W. Lovett, M. D., Boston; John B. and Buckminster Brown, Professor of Orthopedic Surgery, Harvard Medical School. Second Edition, Revised and Enlarged. With 123 Illustrations. Price, \$1.75. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia.

This book from Dr. Robert W. Lovett comes at an opportune time. Comparative little of the current literature on this subject has found its way into textbook form, and excepting perhaps war surgery, this is one of the most important medical subjects before the profession today. This deformity producing disease is an old one, dating back into biblical times, yet the treatment of it has not improved in the least until recently. During the last year, following as it has the New York epidemic, great advances have been made in treatment.

This book deals largely with the chronic pathology, and it is the treatment of old cases which chiefly concerns us now. The author has had a large experience in epidemics of this disease in both Vermont and New York—experience which entitles him to write with authority.

The book is well illustrated and the illustrations in some instances demonstrate what the author was able to do with several extreme cases. We recommend it to our readers.

TECHNIC OF THE IRRIGATION TREATMENT OF WOUNDS BY THE CARREL METHOD. By J. Dumas & Anne Carrel. Authorized Translation by Adrian V. S. Lambert, M. D., Acting Professor of Surgery in the College of Physicians and Surgeons (Columbia University), New York. With an Introduction by W. W. Keen, M. D., L.L. D., F. R. C. S. (Hon.). Price \$1.25. Paul B. Hoeber, Publisher, New York City.

This little volume was written principally for the nurse who is doing many minor dressings. It de-

scribes in detail the method of using Dakin's Solution as used by Dr. Carrel. That this antiseptic solution has obtained an important place in the surgery of the army is not denied. Its value lies largely in the manner of its use, as described by Dr. Carrel, and this book describes the method in a brief, readable way.

THE MODERN GASOLINE AUTOMOBILE. Its Design, Construction, Operation and Maintenance. A Practical, Comprehensive Treatise, Explaining all Principles Pertaining to Gasoline Automobiles and Their Component Parts. The Most Complete Up-to-date Treatise on Gasoline Automobiles Ever Published. Invaluable to Motorists, Students, Mechanics, Repair Men, Automobile Draughtsmen, Designers and Engineers. Every Phase of the Subject Being Treated in a Practical, Non-technical Manner. By Victor W. Page, M. E., Author "The Modern Gas Tractor," "Automobile Questions and Answers," "Automobile Repairing Made Easy," "Automobile Starting, Lighting and Ignition Systems," etc. 1918 Edition. A New Book from Cover to Cover. Revised, Enlarged and Reset Edition, Showing All Recent Improvements. Illustrated by 1,000 Specially Made Detailed Illustrations and Diagrams. The Illustrations defining construction of parts are made from accurate engineering drawings according to best automobile engineering practice. Price, \$3.00. The Norman W. Henley Publishing Company, 2 West 45th St., New York. 1918.

The title page tells what the book is. It describes in detail the principles and construction of many of the well known automobiles. The book, of course, deals mostly with gas engines, both automobile and tractors. The book is rather more complete than most physicians will care for, but the physician's chauffeur or the physician's son may make use of it. It is a really valuable book in its line.

GENERAL PRINCIPLES OF THERAPEUTICS, A. Brief Introduction to. By Francis H. McCrudden, S. B., M. D., Director of Laboratories; Robert B. Brigham, Hospital, Boston, Assistant Professor of Applied Therapeutics, Tufts Medical School, Boston. Gregory, Publisher, 126 Massachusetts Ave., Boston.

This small volume directs the student's mind toward the principles of treatment rather than to definite detailed treatment. It is an elementary text, and may find a useful place in connection with the student's study of *Materia Medica*. It is brief and the student will have time to study its pages in conjunction with his other studies. It will also be useful to the practitioner for hasty review.

TALKS ON OBSTETRICS. By Rae Thornton La Vake, M. D., Instructor in Obstetrics and Gynecology, University of Minnesota; Obstetrician-in-Charge of the Out-Patient Obstetric Department of the University of Minnesota; Associate Attending Obstetrician and Gynecologist to the Minneapolis City Hospital;

Obstetrician-in-Charge of the Out-Patient Obstetric Department of the Wells Memorial Dispensary; Obstetrician to the Swedish and Abbott Hospitals, Minneapolis; one time Assistant Resident Obstetrician to the Sloane Hospital for Women in New York. C. V. Mosby Company, St. Louis, 1917.

The title to this little volume really describes its contents. It is not a text book, but simply a discussion of some of the more common complications and difficulties encountered in the obstetric practice. It is supplemental to text books.

NOTES FOR ARMY MEDICAL OFFICERS. By Lt.-Col. T. H. Goodwin, R. A. M. C., Author of Notes for Medical Officers on Field Service in India and Field Service Notes for R. A. M. C. With an Introductory Note by Surgeon-General William C. Gorgas, U. S. A. Medical War Manual No. 2. Authorized by the Secretary of War and under the Supervision of the Surgeon-General and the Council of National Defense. Illustrated. Price, \$1.00. Lee & Febiger, Philadelphia and New York. 1917.

This little pocket manual is made up of notes and extracts from the lectures delivered by Lt.-Col. T. H. Goodwin before classes at the Army Medical School, Washington. It will be of service to our medical men who are serving with the army, also to the nurses who have "gone across."

DISEASES OF THE CHEST AND THE PRINCIPLES OF PHYSICAL DIAGNOSIS, by George W. Norris, M. D., Assistant Professor of Medicine in the University of Pennsylvania, and Henry R. M. Landis, M. D., Assistant Professor of Medicine in the University of Pennsylvania, with a chapter on the Electrocardiograph in Heart Disease, by Edward B. Krumbharr, Ph., D., M. D., Assistant Professor of Research Medicine in the University of Pennsylvania. Octavo volume of 782 pages with 413 illustrations. Philadelphia and London: W. B. Saunders Company, 1917. Cloth, \$7.00 net. Half Morocco, \$8.50 net.

We are indeed pleased to review a book which deals with physical diagnosis in an intelligent and scientific way. No branch in medicine has been so neglected of late years as has physical diagnosis. It is indeed painful to see attempts made by some recently graduated men to examine a chest.

If we were to adversely criticize this book, it would be to say that as a text book for students it is more complete than the student has time allotted for, and is perhaps too far advanced for the beginner, but for the advanced student, the intern or the physician the book will prove valuable.

The authors have gone into detail relative to the principles which govern the various methods of physical diagnosis, and have demonstrated the findings by photographs of frozen sections. It seems that few conditions of the chest have escaped notice.

The illustrations must be commended, both as to their value and number. The many photographs of

frozen sections are highly instructive, and help materially to convey the authors' meaning. We think every physician should possess a copy of this work.

AN INTERMEDIATE TEXT BOOK OF PHYSIOLOGICAL CHEMISTRY with Experiments. By C. J. V. Pettibone, Ph. D., Assistant Professor of Physiological Chemistry, Medical School, University of Minnesota, Minneapolis. C. V. Mosby Company, St. Louis, 1917.

This book by Pettibone is as its name implies, a textbook of physiological chemistry. It is a volume written by the teacher, and is therefore clearly a text-book. It will not be considered interesting reading by many, but it will serve the practitioner when he wishes to refer to some forgotten fact of chemistry. The book is written primarily for the student, and will serve him a valuable turn, as it is not intended as an advanced work on this subject. It is sufficiently elementary to serve the student in his medical course.

Books Received

ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE OF THE UNITED STATES for the Fiscal Year 1917. Washington, Government Printing Office, 1917.

SURGERY AND DISEASES OF THE MOUTH AND JAWS. A practical treatise on the Mouth and allied structures, by Vilray Papin Blair, A. M., M. D., F. A. C. S., Professor of Oral Surgery in the Washington University Dental School, and Associate in Surgery in the Washington University Medical School. Third Edition. Revised so as to incorporate the latest war data concerning gunshot injuries of the Face and Jaws. Compiled by the Section of the Head, Sub-section of Plastic and Oral Surgery, Office of the Surgeon-General of the Army, Washington, D. C. With 460 Illustrations. C. V. Mosby Co., St. Louis, 1917.

Perhaps less attention has been devoted to surgery of the mouth and jaw in comparison with its relative importance, than to any other regional surgery. The present war will cause an increased activity in the study of surgery of the face, and many new methods of plastic surgery will be called for.

The original edition of this work by Blair was published in 1912; this third edition is recently from the press, demonstrating a marked popularity of the book, which it justly deserves. The author has gone into the subject in an exhaustive manner, and it seems that all features of this special surgery have been reviewed. The book is generously illustrated with both photographs and drawings.

Every medical officer of the army will find the volume a real addition to his armamentarium, and the surgeons, who will finally reconstruct the wounded men coming from the front, should have a copy for reference.

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No. 2

Original Articles

THE DIAGNOSIS OF THE AGE OF THE FETUS BY THE USE OF ROENTGENOGRAMS.

JULIUS H. HESS, M. D.,

CHICAGO, ILL.

From the Department of Anatomy and Pediatrics, University of Illinois, College of Medicine.

The determination of the age of the fetus is of considerable practical importance. On the age of the fetus and on its development are based the chief factors that are to be considered before giving prognosis as to the possibility of saving the life of the prematurely born infant. The method of treatment and especially that of feeding depends primarily on the age of such an infant. In medicolegal cases the question of the age of the fetus may occasionally be of paramount importance and when only portions of the fetus are available for examination, the roentgenographic method offers the best means for arriving at a diagnosis of the age of the fetus.

The Time of Conception. The age of the fetus is the time which has elapsed from conception, that is, from the time of the fertilization of the ovum from which the fetus developed. The time of conception cannot be accurately determined. Conception does not follow immediately after insemination and its relation to menstruation is so uncertain that an error of one month is possible in attempts to calculate the age of the fetus from the time of menstruation. A number of observers, Arnold¹, Bischoff², Dalton³, Leopold and Mironoff⁴, Leopold and Ravano⁵, Reichert⁶, have found that menstruation and ovulation usually occur at the same time, but that ovulation may take place at any time during the inter-menstrual period and that, on the other hand, menstruation may occur without ovulation.

Issmer⁷ found that when pregnancy was cal-

culated from the first day of the last menstruation it averaged 280 days in 1,220 cases diagnosis of fetal age, while in 628 cases it averaged 269 when estimated from a fruitful copulation.

Mall⁸ in his studies on the determination of the age of human embryos and fetuses comes to the conclusion that "the most probable time of conception is during the first week after the menstruation, as advocated by Hensen⁹ and other obstetricians and that in determining the age of the human embryos it is probably more nearly correct to count from the end of the last period, for all evidence points to that time as the most probable at which pregnancy takes place."

His conclusions are also confirmed by recent observations of Siegel¹⁰ on 100 pregnant women in whom the day of an isolated intercourse could be determined, this being made possible by the conditions during the present war. He concludes that conception can only take place during the first twenty-one days after the last period and that the most susceptible time is before the sixth day. In no case could conception be established after the twenty-first day, so that he thinks it is safe to say that the post-menstrual period is the most favorable time for fertilization.

According to all this, therefore, conception in most cases occurs shortly after menstruation and the age of the fetus is to be counted from the last day of menstruation. But even using this method of computing the age, there is room for an error in some cases, which may amount to as much as one month.

The Length of the Fetus. If the date of the last menstruation or the date of a single isolated coitus was not known, then estimation of the age has usually been made on the basis of the length of the fetus, which has been generally regarded as the safest guide in the determination of the age of the fetus.

The average lengths of the normal fetuses as

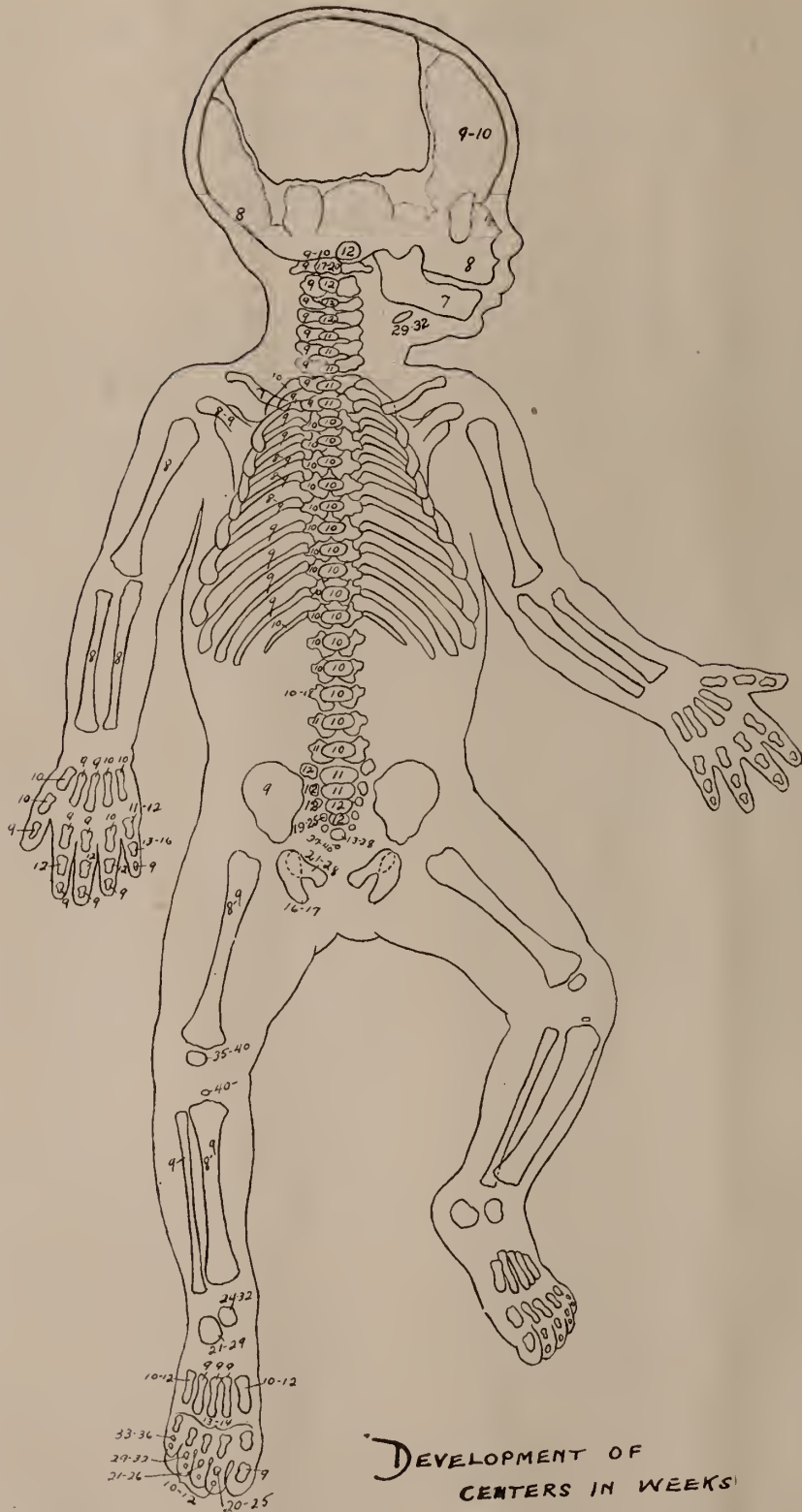


Fig. 1.—Diagram showing osseous development of infant at full term, and development of ossification centers in weeks. Centers shown which are frequently absent at birth: (1) head of tibia; (2) coccyx. Centers omitted in outline: (1) sternum; (2) hyoid.

given by different authors are given in the following table:

TABLE I.

Lunar months	Mall (loc.cit.)	von Winckel (11)	De Lee (12)	Lambertz (13)	Ahl-feld (14)	Schroeder (15)	
1st	-0.25	0.75-0.9	.....	.....	.....	.....	cm.
2nd	0.55-3.0	0.9-2.5	2.5	.....	.....	.....	"
3rd	4.1-9.8	7-9	7-9	6-11	.....	.....	"
4th	11.7-18.0	10-17	10-17	11-17	.....	.....	"
5th	19.8-25.0	18-27	17-26	17-28	.....	.....	"
6th	26.8-31.5	28-34	28-34	26-37	.....	.....	"
7th	33.1-37.1	35-38	35-38	35-38	36-40	.....	"
8th	38.4-42.5	40-43	43	38-42	40-43	41.3	"
9th	43.6-47.0	46-48	46-48	42-45	46-48	44.6	"
10th	48.4-50	48-50	48-50	45-52	48-50	46.0	"

The length for the first two months represents

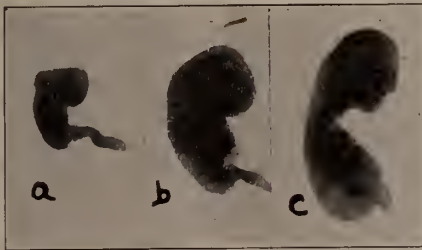


Fig. 2.—Photographs of fetus (exact size), a, at 4 to 5 weeks; b, 5 to 6 weeks, and c, 6 to 7 weeks, respectively.

the measurement from the vertex to the buttocks, all the other measurements are from vertex to the sole.

Issmer (loc. cit.) estimated the length of pregnancy and the age of the child in a number of cases and gives the following figures as to the length and the age of the baby.

TABLE II.

Size of the child in cm.	No. of cases	Age in days as calculated from the beginning of the last menstruation
48	203	271 days
49	272	279 days
50	252	277 days
51	211	282 days
52	123	283 days
53	34	286 days
54	18	290 days

The same author has observed that in children of the same length differences of 10 to 18 days in pregnancy are possible.

There are many physiological and pathological variations and numerous factors influencing the length, the weight and also other measurements of the fetus. Von Winckel (loc. cit.) gives the length of the newborn as 48-56 c. m., but children over 60 c. m. have frequently been born.

Some children at term are small because of the general debility of the mother or because of an acute or chronic disease during pregnancy. Diseases of the placenta and its abnormal location

usually retard the growth of the fetus. In successive pregnancies the children at term usually increase in size.

Other Measurements of the Fetus. Von Winckel (loc. cit.) regards the circumference of the head as being of importance for the diagnosis of age of the fetus and gives the following figures:

4th month.....10-14 cm.	8th month.....25-30 cm.
5th month.....13-18 cm.	9th month.....29-33 cm.
6th month.....19-24 cm.	10th month.....32-37 cm.
7th month.....23-28 cm.	

The weight is entirely unreliable for the estimation of the age of the fetus, because it is subject to too many variations and is much influenced by mother's general condition and more especially by her diet.

Thus, it is seen that even the length which up to this time has been regarded as the most reliable criterion for the determination of the age of the fetus, has many shortcomings and allows of an error of several weeks.

Roentgenograms of the Normal Development of the Skeleton. Since roentgenograms have been found of much value in diagnosis of various diseases and conditions, it was hoped that they might be of service in the diagnosis of the age of

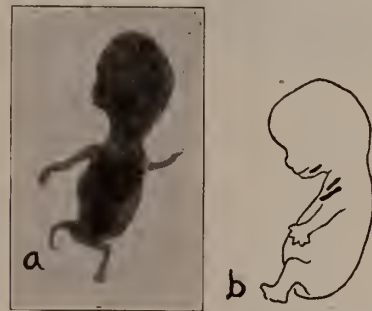


Fig. 3.—Roentgenogram (a) and diagram (b) of fetus at 7 weeks, actual size.

the fetus and that the development of the fetus as observed with the aid of roentgen rays might be a reliable guide for the determination of its age. The developing bones of the fetus with their centers of ossification are the only organs suitable for this purpose.

Basing our facts upon the roentgenographic studies of a series of 55 normal cases which we have collected during the past year and whose ages we have determined from the history of menstruation and of pregnancy and from their measurements, we find the normal process of the

development of the human skeleton as observed in roentgenograms, to be as follows:

The ossification of the human skeleton begins in the upper part of the body and spreads very rapidly in both directions.

Seventh Week. The first centers of ossification develop in the clavicles in the sixth to seventh week of intrauterine life (Keibel-Mall, loc. cit., Rauber-Kopsch¹⁰), but they do not become visible in the roentgenograms until in the seventh week. The ossification center appears in the middle of each clavicle and spreads rapidly in both directions.

Soon after the ossification has started in the clavicle, one center appears in each half of the mandible.

Outside of these centers of ossification usually no other centers, except occasionally that of the maxilla, are visible in roentgenograms of seven weeks old fetus.

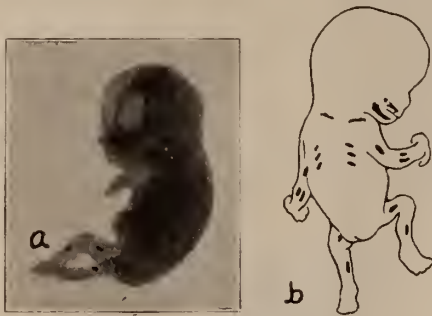


Fig. 4.—Roentgenogram (a) and diagram (b) of fetus at 8 weeks, actual size.

Eighth Week. Osseous development makes very rapid progress in the eighth week and a large number of centers of ossification becomes visible at this time.

The following bones show centers of ossification demonstrable in roentgenograms:

Skeleton of the head: Squamous portion of the occipital bone and superior maxilla. In the latter the ossification begins soon after that of the mandible, the center appearing above the region where the alveolus of the incisor tooth is later located.

Usually no centers of ossification are present in the axial skeleton in this week.

Shoulder girdle: In the scapula a center of ossification usually appears in the eighth week, sometimes in the ninth week. The center corresponds to the position of the middle of the spine of the scapula.

Upper extremity: The humerus is the first bone of the free extremities to show a center of ossification which appears in the diaphysis early in the eighth week. Radius and ulna follow in the order given, the centers appearing very soon after those of the humerus.

Ribs start in their ossification in the eighth week, an ossification center appearing in the region of the angle and extends slowly towards the vertebral column, but rapidly in the opposite direction. The fifth, sixth and seventh ribs which ossify first, are visible in this period. From this region the process of ossification progresses with equal rapidity both cephalad and caudad. The last rib to ossify is usually the first pair. Shortly before the first pair, the twelfth pair usually ossifies, but this is very irregular and we found it absent in several of our cases in old fetuses when other bones of the body and all the other ribs were very well developed.

Lower extremity: Centers of ossification may be occasionally seen in the diaphyses of femur, but usually they become visible in the ninth week. The femur is the first to show a center, the tibia starting in its ossification a little later, and the fibula follows very soon after the tibia.

Ninth Week. Portions of the hand and of the foot enter the stage of ossification, these being the most important new developments in this week.

The following additional centers of ossification are visible in the head: Inner lamella of the pterygoid process of sphenoid, mastoid portions of the temporal bone. The zygomatic process of the temporal bone begins to cast a shadow, its shape being somewhat pointed anteriorly and somewhat convex externally, thus resembling a needle. Bony trabeculae are often seen in the posterior root of the mastoid process. The superior maxilla forms at this time a simple triangular plate, the base of which is parallel to the margin of the maxilla, the apex pointing towards the root of the nose. Malar bone may become visible towards the end of this week or during the next week.

Axial skeleton: Arches of all the cervical and upper one or two dorsal vertebrae show centers of ossification, usually no centers for bodies being visible. One center develops in each arch, the process beginning in the first cervical vertebra and proceeds caudally.

Shoulder girdle: Acromion process of the scapula begins to ossify.

Upper extremity: Terminal phalanges of all fingers begin to ossify in this week. The first beginnings of these centers are difficult to study in roentgenograms on account of their small size, but the later stages can be easily demonstrated. Development of the centers of ossification in terminal phalanges is followed by appearance of centers in metacarpals, which become visible in the ninth to tenth week. The following is the order of ossification in the metacarpals: Second, third, fourth, fifth, first, of which the second and third are usually visible in the ninth week.

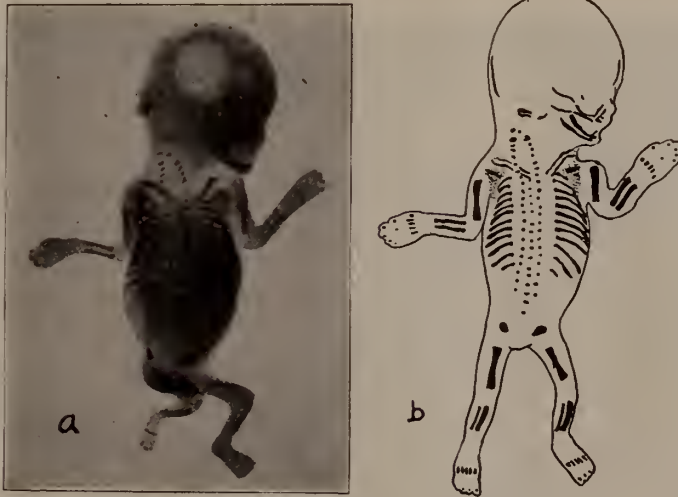


Fig. 5.—Roentgenogram (a) and diagram (b) of fetus at 10 weeks, actual size.

Ribs: All the ribs, except the first and the twelfth cast shadows.

Pelvic girdle: Illium usually appears in this week, rarely at the end of the eighth week. Ossification begins in the region of the greater sacrosiatic foramen and near the acetabulum.

Lower extremity: Centers of ossification in femur, tibia and fibula are seen. Centers begin to develop in phalanges, the first one being a center for the diaphysis of the terminal phalanx of the big toe. Diaphyses of the metatarsals follow in the same sequence and almost at the same time as corresponding portions of the hand, but with far less regularity.

Tenth Week. Comparatively few new centers of ossification are added in this week.

Skeleton of the head: Nasal bone, frontal bone show centers of ossification. Great wing of the sphenoid becomes visible.

Axial skeleton: Bodies of the vertebræ begin to cast shadows. The process starts in the bodies of the lower dorsal vertebræ progressing from this region with unequal rapidity in both directions. Usually lower ten dorsal and all lumbar vertebræ show centers of ossification in their bodies in this week. The process of ossification of arches progressing downwards, has affected usually all the thoracic vertebræ, being more or less advanced occasionally, invading often the upper lumbar region.

Shoulder girdle: Ossification of the scapula spreads to the suprascapular fossa.

Upper extremity: Diaphyses of basal phalanges of fingers develop centers of ossification,

the following being the sequence: The third, second, fourth, first and fifth. Of these usually the third only shows center in this week.

Ribs: At this time the ossification, as a rule, is seen in all the ribs, the twelfth behaving very irregularly and we found it absent in some comparatively old fetuses, far above the tenth week.

Lower extremity: Beginning with this week centers of ossification are present also in terminal phalanges of the second and of the third toe.

Eleventh-Twelfth Week. In this period almost as many centers of ossification are present in the fetal skeleton as at the time of birth, so that but few are added during the period of development following the third month and further changes in the fetal skeleton consist mostly of growth of the centers of ossification, of their fusion and of formation of internal structure of the bones. A fine, somewhat irregular medul-

lary cavity forms in the long bones, usually being seen first in the tibia.

Skeleton of the head: The tympanic ring usually becomes visible in this week, rarely at the end of the tenth week. In pictures taken from the side, its shadow lies between the angle of the mandible and the basilar portion of the occipital bone. Median lamella of the pterygoid process reaches considerable size and is visible as a hook-shaped, curved plate with concavity posteriorly, lying behind the lower portion of the perpendicular part of the palate bone. The malar bone joins the end of the zygomatic process of the superior maxilla and that of the temporal bone. Four centers are now present in the occipital

month the bony diaphyses of the humerus, radius and ulna remain longer and thicker than the corresponding bones of the lower extremity.

Pelvic girdle: Either in this period or shortly after a third center of ossification develops in the ilium, being situated ventrally from the fused first and second centers. There is a marked irregularity in the time of appearance of the third center of ilium, since occasionally it may appear almost three weeks after this time.

Lower extremity: Terminal phalanges of the fourth and of the fifth toe usually develop centers of ossification, in the fifth, however, the center may occasionally appear as late as in the thirteenth week. The bony diaphysis of the femur



Fig. 6.—Photograph (a) and roentgenogram (b) of transparent specimens of fetus at 10 weeks, actual size.

bone. The anterior sphenoidal body begins to ossify.

Axial skeleton: Ossification of arches invades the lower lumbar region. The ossification of the bodies now appears in the lower cervical region and in the upper part of the sacrum, the intermediary bodies having been visible previously. There are, however, considerable variations in the time of appearance of centers of ossification in the sacral vertebræ.

Shoulder girdle: No new centers develop, the old ones increasing in size.

Upper extremity: Diaphyses of all the basal phalanges cast shadows. Middle phalanges of the third, fourth and occasionally of the second finger develop centers of ossification in their diaphyses. The middle phalanx of the 5th finger ossifies much later. Up to the end of the third

month the bony diaphysis of humerus, radius and ulna remain longer and thicker than the corresponding bones of the lower extremity, which up to this time has been shorter and thinner than the bony diaphysis of humerus, has almost reached the length of the latter, remaining, however, still somewhat thinner.

Thirteenth-Sixteenth Week. Characteristic in the osseous development of this period is the appearance of structural arrangement in the bodies of some vertebræ and the presence of centers of ossification in the diaphyses of all the long bones of the hand and of the foot, except the middle phalanges of toes.

Skeleton of the head: Lesser wing of the sphenoid is visible at the beginning of this period. Posterior body of the sphenoid appears in about the fourteenth week.

Axial skeleton: At the end of this period all the vertebræ with the exception of 1-2 lower sacral and of coccygeal, have at least one center

of ossification. Arcues are ossified also in the upper sacral region and bodies from the upper cervical down to the lower sacral region. Structural arrangement becomes visible in the bodies of some vertebræ. Upper and lower plate casting denser shadow becomes differentiated. A zone of lighter shadow is seen between these two plates and in the central portion of the body a flat darker shadow appears. The greatest diameter of this darker shadow corresponds to the longitudinal axis of the fetus in lumbar and lower dorsal vertebræ, in other dorsal vertebræ it lies horizontally. These shadows appear in the bodies of vertebræ in the region in which the

center of ossification develops in the diaphysis of the terminal phalanx of the fifth toe, if it did not appear earlier: In the fourteenth week ossification in basal phalanges begins, first in the big toe and proceeds towards the fibular side in other toes and up to the end of this period it usually reaches the last toe.

Seventeenth-Twentieth Week. In this period bony labyrinth first appears and bone tissue begins to be formed in the rudiments of the milk teeth.

Skeleton of the head: Several new centers of ossification appear in the petrous portion of the temporal bone, but they do not show well in

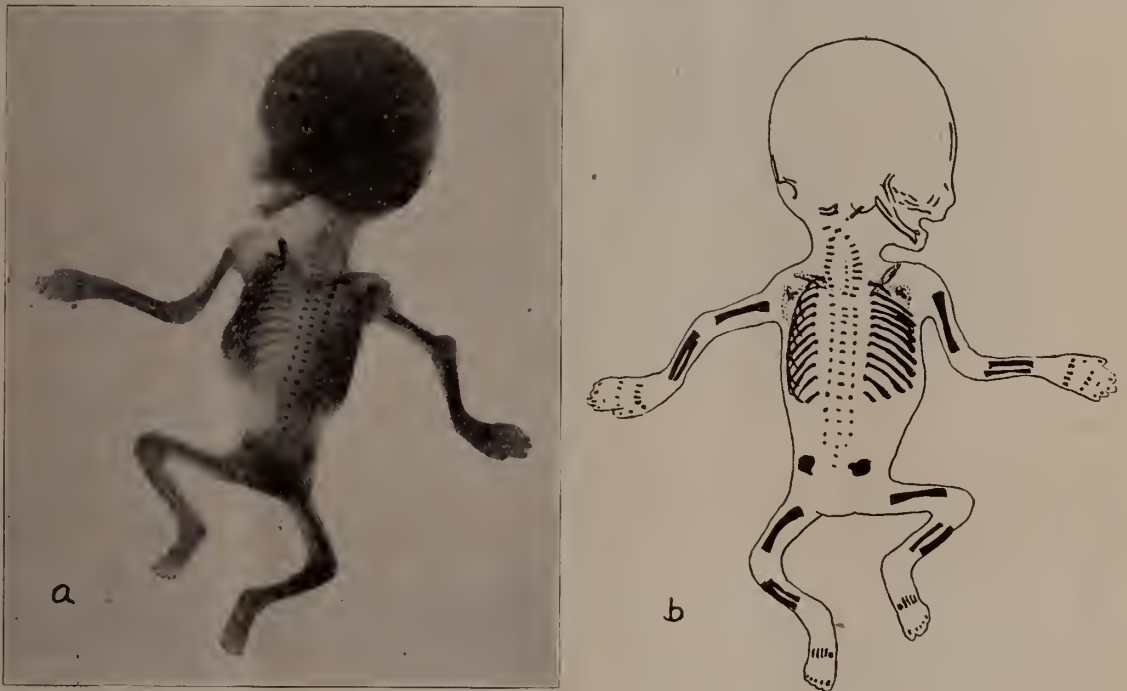


Fig. 7.—Roentgenogram (a) and diagram (b) of fetus at 11 to 12 weeks, actual size.

primary centers made their first appearance.

Upper extremity: In the fifteenth and sixteenth week a center of ossification appears in the diaphysis of the middle phalanx of the fifth finger, so that at this time diaphyses of all the long bones of the hand possess centers of ossification.

Pelvic girdle: At the end of this period or somewhat later a center becomes visible in the descending ramus of the ischium. Instead of one center two separate centers may develop in this portion of the innominate bone and they may remain separate for a long time afterwards.

Lower extremity: In the thirteenth week a

roentgenograms. Bony labyrinth starts in its development. In the rudiments of milk teeth bone tissue begins to be formed and casts a shadow. The process starts in the lower incisors.

Axial skeleton: A center of ossification appears in the odontoid process of the axis. The darker shadows in the bodies of the vertebræ become more distinct and external formation and internal structure of osseous bodies of vertebræ become visible in roentgenograms. Ossification of the arcues may reach the fourth sacral vertebræ at the end of this period although this frequently occurs later.

Pelvic girdle: The twentieth week is the earliest time of appearance of a center in the horizontal ramus of the pubic bone, this, however,

ters of ossification, but there are considerable variations in the arrangement and size of these centers and also in the time of their appearance.

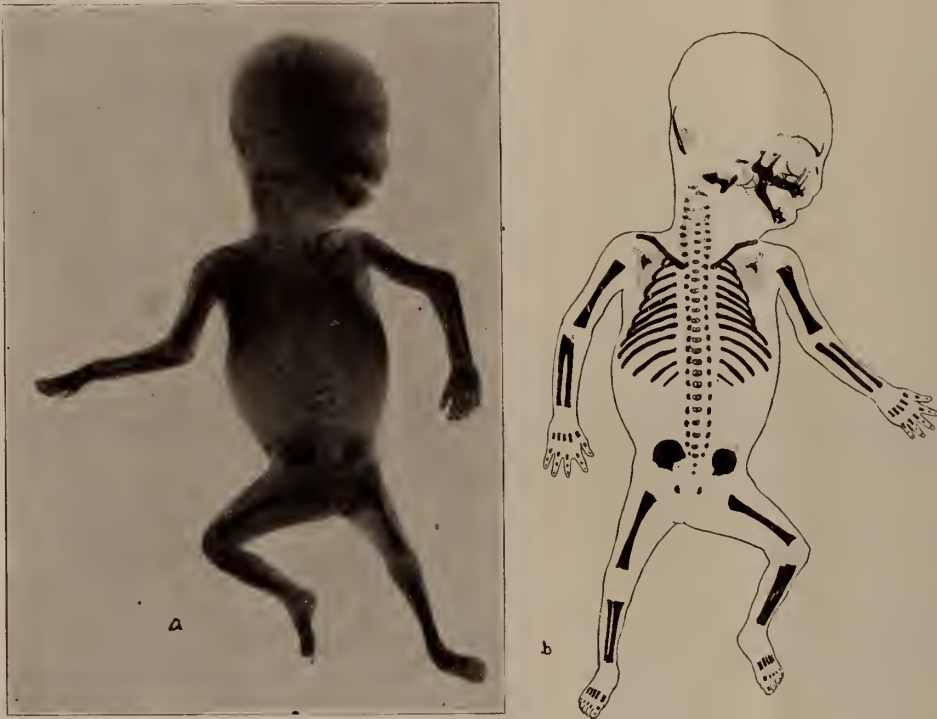


Fig. 8.—Roentgenogram (a) and diagram (b) of fetus at 13 to 16 weeks, one-half actual size.

varies between the twentieth and the twenty-eighth week. The center is located near the margin of the obturator foramen, two centers developing occasionally.

Lower extremity: In the twentieth week a center of ossification may develop in the middle phalanx of the second toe, but this usually occurs in the twenty-first to the twenty-fourth week and frequently even later than this. On the whole, there are marked differences and also individual variations in the time of appearance of centers of ossification and also in the sequence of ossification in the phalanges of toes, especially in the basal phalanges and even more so in the middle phalanges. In the hand, however, the sequence of ossification in the phalanges is far more constant and the time of appearance of the centers is much less changeable than that of the centers in the phalanges of toes.

Twenty-first-Twenty-fourth Week. In this period ossification usually starts in the tarsus, os calcis being the first to show a center of ossification. Sternum begins to develop by several cen-

Skeleton of the head: Superior maxilla shows large amount of spongiosa. Towards the twenty-fourth week the alveolar portion of the superior

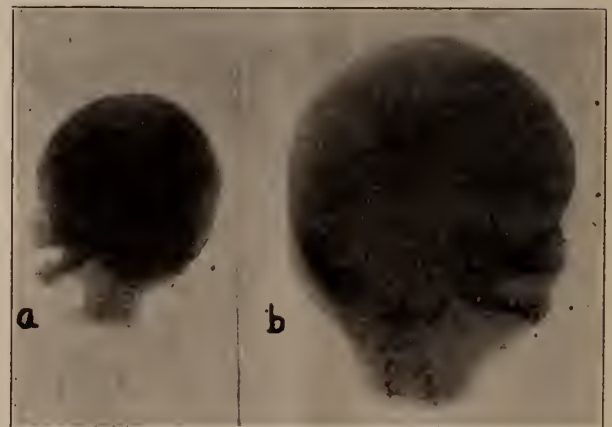


Fig. 9.—Roentgenograms of skull showing ossification centers at (a) 11 to 12 weeks, and (b) 13 to 16 weeks actual size.

maxilla begins to overhang the level of the palatal plate, but develops as a real process only during cutting of teeth.

Axial skeleton: Costal process of the sixth cervical vertebra starts in its ossification. Shadows of transverse processes are seen in vertebrae down to the twelfth dorsal.

Upper extremity: In this period the ossified portion of the diaphysis of the humerus reaches articular ends and begins to overlap these so that at the distal end of humerus become visible both fossæ (olecranon fossa and cubital fossa) and ulna and olecranon, and later on proximal end of the humerus an indication of medial and posterior portion of the neck appears.

Sternum starts in its ossification. Usually one

Twenty-fifth-Twenty-eighth Week. The rudiments of all the milk teeth have entered the stage of ossification in this month.

The development of the transverse processes of vertebra progresses down to the last lumbar vertebra. At the end of this period a center of ossification may develop in the lateral masses of the first and of the second sacral vertebra. The body of the fifth and the arches of the fourth sacral vertebra become ossified at this time, rarely earlier.

A center of ossification develops in the astragalus.



Fig. 10.—Roentgenogram (a) and diagram (b) of fetus at 17 to 20 weeks, one-third actual size.

center forms in the manubrium first and this is followed soon afterwards by several centers in the body of the sternum. The centers form a longitudinal row first and soon they assume a round or elliptical form. Not seldom the first centers of ossification appear in the upper part of the body between the second and the third costal cartilages. The position of ossification centers of the sternum corresponds usually to the level of the intercostal spaces.

Lower extremity: A center of ossification develops in os calcis, its appearance being occasionally delayed by from four to eight weeks. Sometimes it is followed by appearance of a center in the astragalus. Middle phalanx of the second toe and occasionally that of the third toe acquire a center of ossification in their diaphyses.

In horizontal ramus of pubic bone the center may develop as late as this period.

Twenty-ninth-Thirty-second Week. Greater cornua of the hyoid bone usually become visible, appearing as cone-shaped processes directed obliquely upwards at the level of the second cervical vertebra.

Lateral masses of the first and of the second sacral vertebra ossify usually at this time.

In the sternum three or more large centers of ossification are visible.

Middle phalanx of the fourth toe frequently starts in its ossification during the period.

Thirty-third-Thirty-sixth Week. This period is the earliest time at which the first epiphyseal center may appear, that of the distal epiphysis of

femur. Usually, however, this center appears later, at about the time of birth.

Costal processes of the sixth and of the fifth cervical vertebrae start in their ossification.

Thirty-seventh-Fortieth Week. Middle turbinate ossifies at the end of the fetal period, and shortly before birth the rudiments of the first permanent molar teeth begin to ossify.

Costal process begins to ossify in the fourth, the third and the second cervical vertebrae; the first coccygeal vertebra usually ossifies during the last week before birth and vertical arrangement

tween birth and the third year. Casper in the ninth fetal month. Hartmann found it lacking in 12 per cent. of cases at birth and in 7 per cent. of cases present as early as the eighth fetal month.

The four parts of the occipital bone (basilar, two lateral and the squamous) are separated from each other by thin layers of cartilage. Mastoid portion of the temporal bone is not ossified in its entire extent, a serrated line marking the boundary between bony and cartilaginous portion of the mastoid part. Lateral halves of the frontal



Fig. 11.—Roentgenogram (a) and diagram (b) of fetus at 25 to 28 weeks, one-fourth actual size.

of trabeculae becomes visible in the bodies of vertebrae.

A center of ossification appears in the proximal epiphysis of tibia just before birth in a majority of cases and ossification in the cuboid frequently starts before birth, usually by several centers, although in some cases it may not be visible even in the newborn.

The Newborn. A center of ossification in the distal epiphysis of femur is so frequent in the newborn that Lambertz (loc. cit.) calls it a sign of maturity. This is frequently the only epiphysal center present in the newborn. Poirier¹⁷ gives a summary of the literature on the time of the appearance of the epiphysis at the distal end of femur. Sehweigel found it to appear be-

bone are separated. Body of the hyoid bone is usually ossified. Both halves of the mandible, as a rule, are united by connective tissue.

Vertebrae are ossified in all their essential parts, including transverse and articular processes of arches, but the centers of ossification are separated from each other by cartilage. The first coccygeal vertebra is usually ossified by this time.

In some cases the proximal epiphysis of humerus is ossified. In the hand all bones are ossified, except the carpus, in which centers of ossification in os magnum and unguiform may be seen only very rarely.

At the time of birth the ossified portion of the os pubis surrounds usually a portion of the anterior boundary of the obturator foramen, but

the region of the symphysis and upper margin of the horizontal ramus of os pubis remain cartilaginous. The following portions of the innominate bone are not ossified in the newborn:

quently, that of the fifth toe always cartilaginous in the newborn, in the fourth toe, however, the middle phalanx may start in its ossification in the eighth fetal month. The following portions



Fig. 12.—Roentgenograms of skull of fetus showing ossification centers at (a) 17 to 20 weeks and (b) 25 to 28 weeks, actual size.

The crest of the ilium with superior spines, acetabulum, spine of ischium, ascending ramus of ischium.

The middle phalanx of the fourth toe is fre-

of the leg are usually not ossified in the newborn: proximal epiphysis of tibia and of the fibula, epiphyses of metatarsal bones and of phalanges, the cuboid, the three cuneiform bones.

OTHER METHODS OF STUDYING OSSEOUS DEVELOPMENT COMPARED.

We have compared the process of ossification, as observed in the roentgenograms of the fetuses studied by us with the roentgenographic studies of Alexander¹⁸, Bade¹⁹, Hasselwander²⁰ and Lambertz (loc. cit.) and found that the time of appearance of centers of ossification pretty well agrees, in general there being minor differences only.

Compared with the studies of Mall who used transparent specimens of embryos and fetuses for observing the appearance of centers of ossification, we find that by using transparent speci-

Department of Anatomy of the University of Illinois, we obtained transparent specimens of a pair of twins from his embryological collection and made roentgenograms of the same. By studying these roentgenograms and specimens we found the following differences:

	Roentgenograms	Transparent specimens
Basal phalanges of fingers	3rd	2nd, 3rd, 4th
Terminal phalanges of toes	1st, 2nd, 3rd	1st, 2nd, 3rd, 4th
Bodies of vertebrae	9 lower dorsal	9-10 lower dorsal resp.
	all lumbar	all lumbar
Arches of vertebrae	1st sacral	1st, 2nd sacral
	upper 3 lumbar	upper 3 to all lumbar resp.

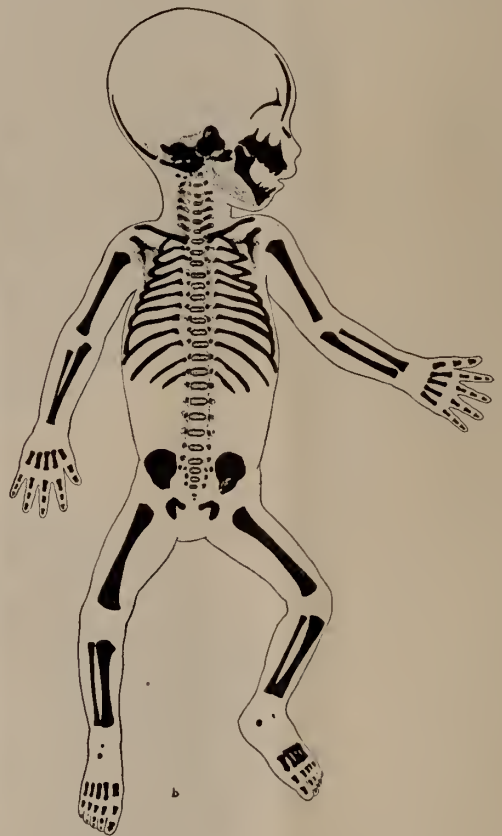


Fig. 13.—Roentgenogram (a) and diagram (b) of fetus at 29 to 32 weeks, one-fourth actual size.

mens he was able to demonstrate the minute centers of ossification generally about one week earlier before they are demonstrable by roentgenograms. This observation also agrees with text books of anatomy (Raubert-Kopsch, Gray²¹) which we have consulted for this purpose and we find that they place the time of appearance of various centers about one week ahead of the time at which the centers cast shadows in roentgenograms large enough to be visible.

By courtesy of Dr. Roy Lee Moodie of the

Thus the transparent specimens show in the 10th week centers that become visible in the roentgenogram only in the 11th to 12th week.

Variations in Osseous Development. There are, as might be expected, some variations in the normal process of ossification and it is also influenced by pathological conditions of the mother and of the fetus (e. g. syphilis, rickets, osteogenesis imperfecta, etc.). In general these pathological processes may well be diagnosed in the roentgenograms so that an error may easily

be prevented. In some portions of the skeleton the ossification is less regular than in others, and as a general rule, the more caudad the portions of the skeleton are, the more they are subject to variations in the process of ossification and the centers which develop at a later period of fetal life are also more variable. Thus there are considerable variations in the time of appearance of centers of ossification in sacral vertebræ. Foot, as a general rule, is unreliable as an indicator of the age of the fetus. The ossification of the

Bade (*loc. cit.*) has examined roentgenograms of twin fetuses, one of which was 5.8 cm. long, weighing 8 g. and the other 6.3 cm. long weighing 11 g. The only difference in the stage of ossification was that the larger fetus showed two more centers in arches of vertebræ and two additional centers in terminal phalanges of fingers.

In a fetus 7.1 cm. long and weighing 25 g. the same author found, however, that the ossification did not progress as far as in the above mentioned twins which were shorter. This delay in ossifi-

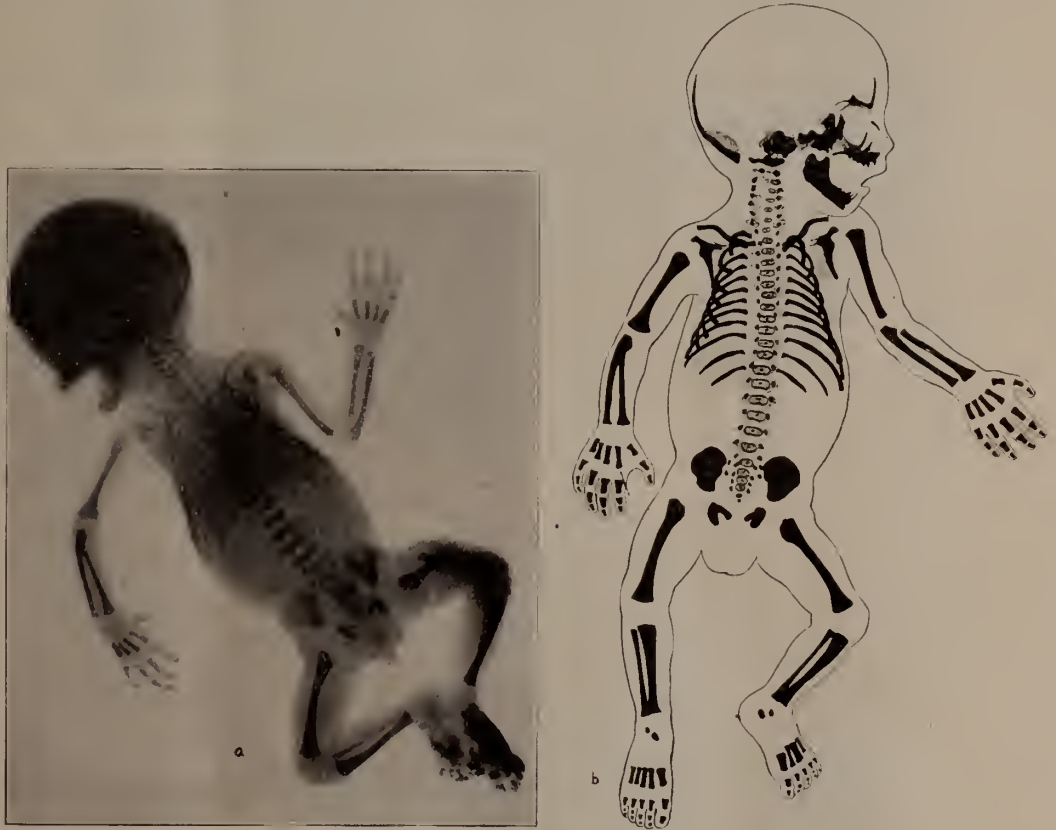


Fig. 14.—Roentgenogram (a) and diagram (b) of fetus at 33 to 36 weeks, one-fourth actual size.

sternum is also irregular in the time of appearance, size and arrangement of the centers of ossification. The 12th rib is also very irregular and we found it absent in roentgenograms of fetus from 13th to 16th week and also in some other older ones, although, as a rule, the 12th rib appears in the 10th or in the 11th week. Some of the centers, although being demonstrable by careful examination, are so small as to be easily overlooked and this may lead to an error. For this reason it is necessary to know what centers we could expect at the particular age of the fetus and we should look for them in good light with a magnifying glass.

ation was in the ribs (the last one not being visible, although all visible in the twins), while the axial skeleton showed only 5 bodies and 21 arches, as compared with 18 bodies and 22, respectively, 24 arches in the twins.

Alexander (*loc. cit.*) found that while the ossification has been normal in other parts of the body, it has been occasionally delayed in the vertebral column.

He observed also twin fetuses measuring 8.9 cm. and 9.1 cm. in length respectively. The only difference in ossification in these two fetuses was that in the larger one there was an ossification center in the 3rd sacral vertebra, while in



Fig. 15.—Roentgenograms of skull of fetus showing ossification centers at (a) 29 to 32 weeks and (b) 33 to 36 weeks, actual size.

the shorter one the 2nd sacral vertebra was the last one containing a demonstrable center.

In the twins from Dr. Moodie's collection which we have studied, the only difference in the stage of ossification are in the axial skeleton, one fetus showing centers for 17 bodies and 24 arches on each side and the other only 15 bodies and 22 arches on each side.

But in spite of these variations the process of ossification seems to be more constant for a particular age than the length of the fetus. Mall in his article on ossification in embryos up to 100 days old (22) concludes that "the remarkable regularity of the appearance of the bones makes of them the best index of the size and of the age of embryo we now possess."

Limitations of Accuracy. In the first half of pregnancy the estimation of the age of the fetus may be done with more accuracy because many more new centers appear in the first months and also because the time of appearance of the earlier centers is more constant. In later months centers of the lower part of the skeleton mostly are available for study and these are less constant in the time of their appearance. We have intentionally made our groupings broad enough to cover minor errors in diagnosis, but more careful subsequent studies may refine the diagnosis to such a degree that determination of age will be possible within the period of one week in the first half of the pregnancy and within two weeks in the second half of the pregnancy.

Different Values of the Different Portions of the Body. In the very early period (second month) the stage of ossification of clavicle and mandible is of chief importance and on the basis of presence or absence of these centers determination of the age is made. Both roentgenograms and transparent specimens show that the time of appearance of these centers is almost constant, which makes them of cardinal value in diagnosis.

Next in importance are the centers of the upper extremity and especially of the hand (metacarpals and phalanges) which are very regular not only in the time of their appearance, but also in their sequence. The ossification of the diaphyses of the long bones of the arms extends from the 8th to the 16th week and during this period the determination of the age may frequently be done from a good roentgenogram of the hand alone.

The progress of ossification of the hand is also of considerable diagnostic importance, but the centers in many bones of the head are very difficult of demonstration. Those, however, that can be well demonstrated, are of much value in determination of the age. This is especially true of the occipital bone, superior maxilla, tympanic ring, nasal bone and hyoid bone.

The axial skeleton (the vertebral column) is much less reliable than the above named portions of the skeleton and especially its lower portion is of little value in diagnosis of age. It is not the absolute number of arches or of the bodies ossified which decides the diagnosis as to the age of the fetus, but more the region involved and the extent of the development in the particular region of the vertebral column (cervical, dorsal, lumbar, sacral). On the other hand, however, the fact that the process of ossification of the vertebral column extends from the 9th week throughout the fetal life and all its centers, as a rule, are well demonstrable, make it of especial value for at least approximate determination, although it must not be forgotten, that occasionally the process of ossification may be delayed in the vertebral column, while it is normal and regular in other portions of the body.

Sternum is unreliable as an index of age and its centers are frequently difficult to demonstrate. The ribs are fairly constant, except the 12th pair which, as previously mentioned, may not show at all in roentgenograms of comparatively old fetuses.

While the ossifications of the long bones of the legs are pretty regular, since they appear at an early period, ossification in the foot is very irregular and the stage of ossification of the foot is of little value in the determination of the age of the fetus. The osseous development of the foot extends from the 9th week to the end of the fetal period (not being, however, completed even at this time) and during this time there are very marked variations, especially in the centers which appear late in the fetal period.

From the above it may be seen that, as a general rule, the earlier a center appears the more regular it is and since the process of ossification starts in the cephalic region and spreads caudally, it is also true that the more caudad a skeletal segment is situated the more it is subject to variations and irregularities.

Advantages of the Roentgenographic Method.

The peculiar advantage of the roentgenographic method of the determination of the age of the fetus lies in the fact that while in determination of age according to the length we base our final conclusion usually on one, rarely on two or three measurements expressing different lengths of the fetus, in roentgenographic method many centers of ossification are the factors taken into consideration before arriving at a final conclusion and they act as check on each other and quite frequently the roentgenograms alone give us information as to whether the fetus is normal or not, a point which seldom may be determined from measurements alone.

Technic. In studying the roentgenograms it is well to use a reading glass of about 4 inches in diameter, since some centers of ossification may be so small as to be very easily overlooked when looked for with the naked eye.

If only one exposure of the fetus is made, then the best position to show as many ossification centers as possible is as follows: The back lying flat on the plate, head turned completely to one side so that lateral side of the head lies on the plate and lateral exposure is obtained. (It should be remembered in the study of the skull that both halves of the skull are usually visible.) Arms should be extended and fingers spread as far as possible from one another. One hand should be pronated and the other supinated, the lateral exposure, which is often of so much value in roentgenograms taken for the purpose of surgical diagnosis, not being of much value, since in this position shadows of phalanges of fingers and of metacarpals are superimposed and cannot be well differentiated. Legs should also be extended and feet also put into such a position that all metatarsals and phalanges are shown.

CONCLUSIONS.

1. The stage of ossification of the skeleton of the fetus as observed in the roentgenograms is of considerable practical importance in determination of the age of the fetus.

2. The roentgenographic method of determination of the age of the fetus is more reliable than determination of age based on length and other measurements, since osseous development is more regular, offers many more factors for consideration, one part of the body is criterion of normality for the other parts of the body and pathology may often be readily recognized.

3. In early months more accurate determination is possible than in the later months and the roentgenographic method is undoubtedly capable of much more refinement by further studies and observations.

5514 Indiana Ave.

REFERENCES.

1. Arnold. Inaug. Diss. Würzburg, 1887.
2. Bischoff. Beweis der von der Begattung unabhängigen periodischen Reifung und Lösung der Eier der Säugetiere und des Menschen als erste Bedingung ihrer Fortpflanzung. Giessen, 1844. Entwicklung des Hundeeies, 1845.
3. Dalton. The Corpus Luteum of Menstruation and Pregnancy. Philadelphia, 1851.
4. Leopold and Mironoff. Arch. f. Gyn., Vol. XIV, 1894.
5. Leopold and Ravano. Arch. f. Gyn. Vol. LXXXIII, 1907.
6. Reichert. Beschreibung einer frühzeitigen menschlichen Frucht im blasenförmigen Bildungszustande. Ahh. Kgl. Akad. Wiss., Berlin, 1873.
7. Issmer. Über die Zeitdauer der menschlichen Schwangerschaft. Arch. f. Gyn. XXX, 277 and XXXV, 310.
8. Mall. Keibel-Mall. Manual of Human Embryology, i, 196.
9. Hensen. Hermann's Handbuch der Physiologie. Vol. VI, 1881.
10. Siegel. D. m. W. 1915, No. 42.
11. von Winckel. Handbuch der Geburtshilfe.
12. De Lee. The Principles and Practice of Obstetrics. W. B. Saunders Co. Second Edition. 1915.
13. Lambertz. Development of the human skeleton during fetal life. Fortschritte auf dem Gebiete der Roentgenstrahlen, Ergänzungshand 1.
14. Ahlfeld. von Winckel's Handbuch der Geburtshilfe I. 1. p. 290.
15. Schroeder. Quoted from von Winckel's Handbuch der Geburtshilfe.
16. Rauher-Kopsch. Lehrbuch der Anatomie des Menschen. 10th Edition. Theme, Leipzig, 1914. Vol. II.
17. Poirier. Traite d'Anatomie. Vol. I. p. 227.
18. Alexander. The development of the osseous vertebral column. Fortschritte auf dem Gebiete der Roentgenstrahlen. Ergänzungshand 13.
19. Bade. Short description of ten roentgenologically examined fetuses. Centralblatt f. Gyn., 1899, p. 1031.
20. Hasselwander. Studies of ossification of the skeleton of human foot. Zschrft. f. Morphologie und Anthropologie. 1903. V. 438.
21. Gray-Spitzka. Anatomy descriptive and applied. 18th Edition. Lea and Febiger., Philadelphia and New York, 1910.
22. Mall. On ossification centers in human embryos less than one hundred days old. A. J. Anatomy. 1906. V. 433.

MALARIA.*

J. W. BARROW, M. D.

CARBONDALE, ILL.

In the catalogue of diseases malaria is one of the oldest and still one of the most remarkable. Osler says:

No infection except perhaps tuberculosis compares with it in the extent of its distribution or its importance as a killing or disabling disease.

In 1908 there were in the Punjab, India, over three million deaths from fevers, a large proportion from malaria. In the months of October and November there were over 300,000 deaths from malaria alone.

In the same year there were nearly one thousand deaths from malaria in Alabama and in the year following, the great health resort, California, ranked second in its death rate from malaria among the states in the registration area which excluded Illinois and most of the badly infected southern states.

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Its etiological history as detailed by Osler is extremely interesting. It began in 1880 with the discovery of the parasite by the French army surgeon, Laveran.

In 1885 Marchiafava and Celli described the parasite with great accuracy and in the same year Golgi made the all-important observation that the paroxysms of fever invariably coincided with the sporulation or segmentation of a group of the parasites.

The next important observation was the discovery by Golgi that the parasite of quartan malaria differed from the tertian.

In 1889 Marchiafava determined that the organisms of the severer forms of malaria differed from the parasites of the tertian and quartan.

Manson was the first to formulate in a clear and scientific way the theory of infection in malaria by the mosquito.

Then came the practical demonstration by Italian observers and by the interesting experiments on Manson, Jr., of the direct transmission of the disease to man by the bite of the infected mosquitoes.

And lastly, as a practical conclusion of the whole matter, the anti-malarial campaigns, so energetically advocated and carried out by Ross, have shown that by protecting the individual from the bite of mosquitoes by exterminating the insect or by carefully treating all patients so that no opportunity may be offered for the parasite to enter the mosquito, malaria may be eradicated from any locality.

The life of the parasite in man and again in the body of the mosquito, while profoundly interesting, is too well known to this audience to warrant a review.

We are fully conversant with all of these remarkable phases of malaria. We know the well marked lines of procedure in eliminating this disease, yet I believe many physicians underestimate the bearing that malarial fever has on their individual practice.

I believe every general practitioner of southern Illinois should weigh carefully the following points: First, he should know rather accurately the extent of malarial infection in his particular field. There will be found certain streams, ponds or marshes near which the residents will be in an almost chronic state of infection. It will be a great help in diagnosis and treatment if these areas are fairly definitely charted. Second, he should clearly realize the disabling effect on community life. Out of less than one hundred men, Co. E, Carbondale, who did guard duty recently at East St. Louis, thirty came down with malarial chills and fever. The railroads of southern Illinois, in this crucial time, are very considerably hindered because of malaria

among their employees. Third, the confusing element projected into the problem of diagnosis. How frequently malaria clouds the diagnosis of typhoid fever, puerperal sepsis, the contagious diseases and others. And fourth, the difficulties attending efficient treatment. Very few realize the serious nature of chronic malarial infection.

What should our attitude toward the mosquito and malaria be in southern Illinois?

I think that this meeting should favor a comprehensive, state-wide mosquito and malaria survey carried out under the direction of the State Board of Health and the University of Illinois.

In March, 1916, the State Board of Health of California, in conjunction with the University of California, decided to make a state-wide survey of malaria and mosquitoes under the direction of Prof. W. B. Hermes. It was carried out in part last year and likely completed this year. I wish to quote at length from Mr. Hermes' report of 1916.

The object of the survey was threefold, first, scientific, in that an accurate knowledge of the specific occurrence and distribution of mosquitoes and malaria was desired; second, economic and remedial, in that accurate information relative to the breeding places of the Anopheline species was needed in order that definite and practical suggestions for control could be offered; and third, educational, in so far as literature was distributed, lectures were given, conferences were held and much personal work was done among the ranchers. The objectives of the survey defined from the very start the methods pursued in our survey. The itinerary of each trip was prepared in advance and adhered to very closely. Adult mosquitoes were easily located in their hiding places during the day, commonly under bridges, in culverts and in out-houses. By the use of cyanide bottles made of shell vials representative collections were made. After collecting them they were at once placed between cotton wadding in small pill boxes, each box given a number which corresponded to a number on a map. Breeding places were then located, descriptions were made and photographs taken in many instances. Ordinarily this peculiar performance attracted attention and soon one or more individuals were being told the object of our work. Health officers and other public officials were frequently taken into the field and given lessons in the recognition of mosquito larvæ, particularly the Anophelines, and were given suggestions for control. In nearly all communities resident physicians were consulted relative to the occurrence of malaria in the vicinity and blood smears were examined wherever available. Public lectures, previously scheduled, were frequently given, usually illustrated with local material.

RESULTS OF SURVEY.

We now have without doubt a very complete col-

lection of the species of mosquitoes occurring in northern California and by the time the survey is finished a unique representative collection of these insects will be at hand such as few, if any, of the larger states possess. The specimens are being properly mounted and a card index of localities is being prepared so that information relative to the occurrence of mosquitoes in a given locality can be quickly and accurately ascertained. Our knowledge of the geographical distribution of the Anophelines has been greatly amplified. One or more of the specimens of Anopheles was encountered in all but one northern California county, and we were able to find numerous specimens of Anophelines, also located their breeding places, at an elevation of 5,482 feet (this at Sierraville).

We were even more impressed than ever that the Anopheles mosquito as a real menace to health does not wander far from its larval habitat, and that with the discovery of Anophelines their breeding place may be located within a very few rods of this point.

While the survey has revealed the fact that Anopheline mosquitoes are more widely distributed than was at first believed to be the case, and that consequently the malaria menace is also greater, we are no less positive in our belief that malaria can be brought under control. It is, however, a matter of detail, intensive rather than extensive. For example, a small overlooked pool of water, originating from a tiny stream beneath a fruit-packing house, may produce ample Anopheles mosquitoes to distribute malaria among the employes who may work toward evening during the rush season, or larvæ may occur in an open spring which supplies drinking water for the nearby fruit-picking camp, etc. The successful operation of malaria campaigns calls for specially trained men.

I believe we should use the means at hand to establish more clearly the diagnosis. How many cases we call malaria that are something else, and how frequently we fail to recognize malaria concealed in some strange clinical garb.

I believe in the routine use of the microscope in suspected cases. In my St. Louis city hospital interne work I have often taken a drop of blood from a patient still on the stretcher and found the plasmodia in less time than the patient could be put to bed, thus clearing up the receiving doctor's provisional diagnosis of typhoid fever in less than five minutes.

Lastly, I am coming to believe more fully in the use of quinine in suspected cases. I believe it should be given in large doses and for sufficient time to cure the chronic malarial carriers.

I wish in closing to offer a resolution, but before doing so I shall read a letter from Prof. Forbes, University of Illinois.

I now move you, Mr. President, that it be the

sense of this meeting, that we request the State Board of Health and the University of Illinois, to undertake a survey of the mosquito and malarial problem of Illinois.

OBSTETRICS IN COUNTRY PRACTICE.*

J. S. TEMPLETON, M. D.

PINCKNEYVILLE, ILL.

We do not often see articles in our medical journals on this very important subject. Just why so many of our prominent physicians and surgeons consider this part of our work so unimportant is hard for some of us to understand. True, the obstetrician of the city occasionally gives us a short article on some case of ectopic pregnancy or Caesarean operation. While we read them with pleasure and profit, they are difficult for us to carry to the bedside of the obstetrical case five or ten miles out in the country, where we have only such instruments as we can carry in an obstetrical bag, no sanitary bed, no trained nurse, and, in fact, few of the conditions surrounding the fellow that writes the articles mentioned. This paper will probably only interest those who, like ourselves, are accustomed to answer the midnight, or call of any other hour to the bedside of some suffering woman, perhaps the wife of only a year; but a home has been started, plans for life have been made, and for months past this event has been looked forward to with mingled joy and sadness, fully conscious of the dangers and pain of labor, but willing to undergo all for the sake of becoming a mother. It may be the home of the mother and mainstay of a large family of small children. Whose life then could be of more worth? Why treat the subject with any but the greatest respect, where such lives are at stake? True, that few mothers of late years die during or soon after from the effect of full term labor. But I do believe that there is no other field today where care and skill can save more lives. It should not and will not be many years until the physician who has to contend with ordinary conditions only, will feel disgraced if one of his patients has puerperal convulsions, puerperal fever or any preventable complication of labor, and while post-partum hemorrhage is not so easily prevented, we hope it will not be long until that too will be easily

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overcome or controlled with certainty in every case. Usually when called to the bedside of a sick person but one life is dependent upon our skill, but in these cases two are placed in our care, both depending upon our skill and integrity for a further lease on life.

In my experience with nearly a thousand cases some difficult ones should not have been so, but I shall frankly report all that seem to me will be profitable to the profession and humanity. As we review these cases there is no time or place for charity among ourselves, we are taking up the subject for the good of mankind and to neglect it when so much happiness depends upon our ability and care would be little less than willful murder.

Case 1. My record shows a slow, normal birth, both mother and child did well. The only abnormal thing to contend with was the obstetrician himself, for while he was not a total stranger to such affairs, he had not had the training that he should have had, and such as is rightly required of all graduates of accredited medical colleges today. However, Nature favored him and none present ever knew how strange he felt or how much he learned while he was earning this first ten dollars. The baby was finally born, while the mother sat on the husband's knee, and while instruments may be sometimes unnecessary, they would have no doubt been of benefit to both mother and child in this case, saving time and of less danger than the delay.

Case 2. Though normal, was another corker to the embryo M. D. The fontanelles did not seem to be in their normal position. The occiput was neither in R. O. A. or L. O. A. Several examinations and much study took place during the first hour. Finally the breech could not be mistaken for any other part of the child and labor proceeded in a satisfactory manner, successfully passing all dangerous landmarks for mother, child and physician.

Case 3. A normal birth, but the placenta was retained and caused much worry to both mother and attendant. Nothing seemed to avail and three teaspoonfuls of ergot was given in the hope that it would be effective. Eventually success followed our many efforts, but soon after the mother complained of a severe headache, probably due to the ergot. Since that I have learned to apply the Credé method and believe it to be superior to all others. Also have learned not to hurry the placenta unless there is hemorrhage or some other symptom requiring haste.

Case 4. An instrumental delivery and one thing worthy of note was that I had an assistant give the chloroform, something I do not always do now. It is a question in my mind if any of us should make a business of administering chloroform and deliver difficult cases alone.

Case 11. Hydrocephalic head and breech presenta-

tion, body was delivered normally, but head was retained for some time and had to become elongated before being born, did not recognize condition until complete delivery which probably took over an hour's time after delivery of breech.

Case 27. Baby died of an infected umbilical cord. Methods used in care of this cord are not recorded, but am sure that had either moist dressing of carbolated vaseline or dry dressing of some good antiseptic powder been used, such would not have occurred: at least it has not in over nine hundred cases since.

Case 38. Was called about 3 a. m., found patient suffering, but no dilatation; said it was not time for labor. Morphine hypodermically gave relief for a few hours, when pains returned. Patient was very nervous and dilatation was slow. About twelve hours after pains first commenced puerperal convulsions occurred and delivery was accomplished immediately with chloroform and instruments. Child died, but mother had an uneventful recovery.

Before going further I want to say that a physician engaged to care for a case of labor and does not make a urinalysis is guilty of criminal neglect and should be dealt with accordingly.

Case 51. A placenta praevia, and if same conditions confronted me today as then, I would probably do the same. Deliver with forceps or version and save the mother. Pregnancy was only seven months advanced and the child died. However, I have carried some placenta praevia cases to full time.

Case 52. A normal presentation and upon examination no abnormal conditions were found. Dilatation was slow and $\frac{1}{4}$ grain morphine was given hypodermically. The patient rested for some time, probably two hours, the pains returned and had apparently been coming normally for two hours, when she complained of pain on one side of her head, not severe, however, and little attention was given it until she became sleepy again, and on closer examination the pupil of one eye was found to be much larger than the other. Deep coma soon came over her, instruments were immediately used, and a dead child delivered, the mother dying less than an hour afterward undoubtedly from brain embolus. There was nothing unusual in the beginning of this labor and the pain had only been in progress half a day when the fatal conditions appeared.

Case 59. Multipara, normal pelvis, head became impacted, in occiput posterior. Pains were normal, but from the beginning made slow progress and finally ceased to affect the head. Used instrument and made a successful but difficult delivery. Nothing especially significant about this case, but I realized that lives of mother and child were endangered by such a delivery. Had the child been a little larger or the pelvis contracted, there would have been serious trouble, and I have observed several times since that the child turned in the lower curve of the pelvis and was normally delivered. Hence while we cannot expect a favorable turn in every case, I believe we should be slow to attempt forcep delivery in all

occipito-posterior cases that we cannot right by external manipulation.

Case 92. Primipara, shoulder presentation; dilatation was very slow and it was twelve hours before a version was attempted, but no impaction occurred. After administering chloroform to complete anesthesia the os was sufficiently dilated to allow introduction of hand, but the obstetrician was alone, and had to superintend the giving of the chloroform and deliver the child at the same time, and again made undue haste, and while bringing down the feet a leg was broken about the middle third of the femur. Little was said and explanations were of a general nature in regard to the child's affliction. A splint was applied at once and next day a plaster cast which was allowed to stay on for four weeks and the child today is a strong boy without any evidence of the perilous journey into this world. This is one fracture bill that was never collected, not even charged.

Case 345. Mother of two children contracted pneumonia when she was about eight months pregnant. Had usual chill and high fever with severe pleural complications. She was given ordinary pneumonia treatment and on fourth day was delivered of a still-born babe, nothing unusual about the delivery, normal amount of blood flow. Temperature at once dropped to normal, remaining so for a few hours, when it gradually rose again, going as high as 105 degrees. Discharges became offensive and vaginal douches were resorted to without apparent effect. An intrauterine wash was then used with return flow, metal catheter and weak iodine solutions, which not only relieved the offensive odor, but reduced the temperature every time. Once while using, patient complained of sharp, severe pain in abdomen, severe rigors and hard chill following. Hot applications relieved pain and recovery from pneumonia and treatment were afterward uneventful.

Case 365. Was called in the afternoon and found patient suffering light pain, gave small dose of morphine sulphate hypodermically and pains were lessened, but not relieved, so allowed labor to proceed and as soon as dilatation would at all permit, gave anesthetic and attempted to deliver. Had an assistant who reported when he saw the patient that he had been called two years before to assist another physician to deliver the same woman, and that they had all kinds of trouble delivering her. Failed to save the babe and almost lost the mother. After two hours' hard work we delivered a live baby and the mother finally recovered, but neither of us ever wanted to go through such an ordeal again. We never had the instruments properly adjusted and several times they slipped off, the first blade placed seemed to catch over the occiput of the child and the second over the brow; whether it was the subject or operator at fault I could not determine. Some two years later this same woman was pregnant again and you may imagine my chagrin when told of it. One thing I determined if called and that was not to attempt a delivery until Nature had done all it could.

When called labor seemed to be coming on about the same as before, so I began at once with $\frac{3}{8}$ grain of morphin and 1/100 grain atropine, which relieved her for the night. The next morning, Tuesday, I repeated the dose, again in the evening, and so on morning and evening until Friday, but each day I could tell the os and other tissues were becoming more relaxed. Friday afternoon they called about five o'clock reporting that her pains were returning and harder than before. I had supper and leisurely strolled down to the house to find the head in the vulva, and in a short time a very normal labor. The child was smaller than the first one, but I cannot help feeling that in the first case we were too much in a hurry, and though abused by the neighbor women I felt repaid for the time and trouble of waiting it out this time. Since that one case has come under my care that required morphin hypodermically for five days before delivery, but finally came out all right with instrumental assistance.

Case 480. Was called to confine primipara and found her suffering intensely. History pointed to a normal beginning of labor, but patient complained of pains all over and especially extending up into the chest. Vaginal examination showed some dilatation, discharge and occiput presenting; however, the vagina seemed unusually warm and led to an immediate test of temperature, which registered 104 degrees, and upon further examination it was found both lungs were considerably congested. Soon cough with brick dust sputum appeared while she was in labor. After delivery with instruments and a moderate flow the temperature receded and the patient was left that evening with normal temperature. The day following her temperature was 101 degrees and it gradually arose until the fourth day it was again 104 degrees. After this a usual pneumonia fever was observed with recovery by crisis on the ninth day.

Case 638. Was called about 2 a. m.; found large, very fleshy woman about twenty-five years of age, and this her first confinement. Pelvis normal, head impacted, os dilated and tissues all relaxed, was having regular pains, but they seemed to lack power. History showed that she had been having pains for two days. I had never used pituitrin, but it seemed to me this was the time to try it. Gave one-half c.c. and in twenty minutes had strong pains. Gave a little chloroform and waited half an hour before deciding that instruments would be beneficial. A low operation delivered a nice healthy child, and the mother escaped without even a tear. Since that time I always carry pituitrin and use as much as one c.c. in some cases, but believe it a dangerous remedy in any but select ones. The pelvis must be roomy, the perineum relaxed, and should, in my opinion, never be given when the patient is strong and has effective pains, unless it is in the latter part of the second or third stage of labor. In just such a patient as described I found it very effective in preventing post-partum hemorrhage. One time she was sick a terrible flow of blood followed delivery of child and placenta; the next time as the child neared the perineum I gave

one c.c. pituitrin and there was no trouble. This patient had always been a free bleeder.

Case 670. Was called nine miles to primipara and upon examination found the presentation, not of the head, not of the feet, shoulders, breech or any part of the child that might be expected to present, but of a mass that proved to be intestine. My thoughts were first that I had penetrated a thin belly wall, and I had several other thoughts before the child was sufficiently delivered to realize that the abdominal walls were all absent. Normal skin covered other parts of the body and save for one leg being set rearward the toes pointing backward instead of forward, the child seemed normally built, though it died during delivery.

These are some of the unusual cases I have noted; time forbids a report of any more. Since beginning obstetrical work some things appear different to me. I was taught that forceps were a necessary evil, now I look upon them as one of the greatest blessings to mankind, often being needed and seldom doing harm in the hands of competent conscientious physicians, and I do not feel that there are many others. Ergot I give after each labor and from experience believe it should be always given after and never before the second stage. Was taught that the obstetrician's hand should be kept on the fundus of the uterus for at least one hour after delivery. This I cannot quite see as necessary. But I always keep close watch on the patient's pulse and uterine contraction for an hour. Can always find some one to care for the baby and seldom leave the bedside for anything during this time. Castor oil and turpentine are given as a routine in nearly all cases. Not always necessary, but a matter of safety first, especially when your patient is ten miles from town and you do not expect to see her again. So far I have not had any deaths from puerperal fever, and am hoping that I will not meet with one in my next thousand cases.

EXTRAUTERINE PREGNANCY WITH REPORT OF AN UNUSUAL CASE.*

J. B. MOORE, M. D., A. B.

ZEIGLER, ILL.

When the fertilized ovum is arrested at any point between the Graafian follicle and the uterine cavity and there undergoes development we designate the condition an extrauterine or ectopic pregnancy.

Extrauterine pregnancy is primarily almost always situated in the tube, but may become tubo-ovarian, ovarian, abdominal, intra-ligamentous or even uterine in the further course of its development. Ovarian pregnancy is very rare.

Obviously the ovum must have been fertilized in the tube or pelvic cavity when extrauterine pregnancy exists. And this leads to the question, When normally does the ovum become impregnated. Observations upon animals have shown that spermatozoa, under normal conditions, make their way up into the tube and even into the peritoneal cavity. Spermatozoa may retain their vitality for a considerable length of time within the tube. They have been found, for example, in the female bat, six months after the last copulation. Duhrrsen observed spermatozoa in the normal fallopian tube of a woman three and a half weeks after the last copulation. So we conclude that probably fertilization of the ovum takes place normally in the fallopian tube.

The factors which lead to the arrest and development of the fertilized ovum within the tube are usually of a mechanical nature by which the downward progress of the ovum from the Graafian follicle to the uterine cavity is impeded.

Here we will review some of the anatomic peculiarities of the female reproductive organs, in order better to see how this may occur. The ovary is a solid, flattened body about the size and shape of a large almond. It is suspended loosely in the pelvis usually against the side wall. The fallopian tube is a narrow duct about four inches long, lying in a fold of peritoneum which is a part of the broad ligament of the uterus. Its opening at the uterine end is about 1 m.m. in diameter, gradually enlarging toward the abdominal free end to about 2 m.m., ending in a funnel-like fimbriated expansion in close apposition to the ovary of the same side. Thus we see that the ovum after leaving the Graafian follicle, first passes out into the pelvic cavity. The tube walls are made up of circular and longitudinal muscle coats, lined with longitudinally folded ciliated mucous membrane. This peculiar type of mucous membrane is also found lining the uterus. It has been proven that these cilia have movement directing the current downward. With these conditions in mind we can readily see how easily a state of affairs might arise to hinder the downward course of the ovum.

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Kelly classes such causes under three heads:

1. Obstacles within the tube by which its lumen is diminished, as: Decidual reaction in the tube and polypi.

2. Diseases of the tubal walls and peculiarities in its anatomy, as: Catarrhal and purulent salpingitis, causing swellings of the mucous membrane and destruction of the cilia. Diverticula from the lumen of the tube. Atresia of one tube with migration of spermatozoa or fertilized ovum to the opposite side.

3. Factors acting externally to the tube by which its lumen is encroached upon, as: Uterine myomata, peritoneal bands and adhesions, and torsion of the tube.

The pathology varies with the location of implantation and stage of development. Primary implantation sometimes occurs in the extreme uterine end of the tube (interstitial type); here with development of the ovum it may be extended into the uterine cavity and there develop, passed into the abdominal cavity or rupture into the broad ligament. Implantation occurs most frequently in the infundibular portion of the tube, where it develops to about 6 to 8 weeks, and is extruded into the pelvic cavity where it attaches to the ovary, uterus, intestines, broad ligament and pelvic walls. There is always more or less hemorrhage with such extrusion. It may be sufficient to cause death. The fetus may develop with secondary implantation to maturity, which is very rare; it usually perishes. It may form a large pelvic hematocele, or abscess from secondary infection; or it may become calcified and remain in the abdominal cavity. There is a decidual reaction in the uterus which becomes enlarged and softened somewhat.

The importance of a diagnosis of the condition before rupture is great, because of the clear indications for radical treatment. Kelly says that the diagnosis of an extrauterine pregnancy is usually easy to make, but he cites many failures. Gradin states that the man who suspects every woman of having this condition is the man who is least liable to err in diagnosis. The diagnostic signs vary according to the advancement of pregnancy, and according as the sac is ruptured or unruptured.

The history is of the greatest importance, in connection with a thorough physical examination. The history of the case often shows that the woman has been sterile for some time. It

may be as long as 10 or 12 years. And a close investigation generally reveals the fact that there has been some catarrhal process in the uterus and in the tubes with attacks of pelvic peritonitis. There may be an irregular menstrual history as is frequently the case with catarrhal conditions. They will almost always tell you that they had not menstruated for six to eight weeks when a slight flow appeared persisting 10 to 14 days, with a lapse of a few days or continuing indefinitely. Some times the woman feels that she is pregnant, but that it is not like any former pregnancy. At other times, as in one of the cases I shall report, they have very slight or no idea of pregnancy. Colicky pain in the lower abdomen during the early period is considered a rather important symptom. Sometimes the presumptive signs and symptoms of normal pregnancy are present, with cessation of menstruation, as nausea and changes in breasts and vaginal mucosa. These, however, in my experience, have proven of very little value.

Sudden, severe, agonizing pain often coming on during exertion, with collapse and anemia, with evidences of shock and severe peritoneal irritation, is very suggestive of a ruptured ectopic pregnancy. Usually there is no temperature above 99 degrees unless there be a secondary infection with abscess formation or general septic peritonitis. The leukocytes are normal or slightly increased unless there be secondary infection. An examination will often reveal parts of the decidual cast in the uterine discharge. A tender mass extending to one side of the uterus may be outlined by vaginal examination. After rupture the mass may be quite extensive, involving the entire cul-de-sac and extending up into the abdomen. It is not so tender and does not present the edema and fixation that is found in an abscess. The uterus is somewhat enlarged and softened.

The things most often confused with an extrauterine pregnancy are: Salpingitis, in which case there is usually some fixation of the uterus and pelvic organs. There are no signs of pregnancy, the temperature is usually elevated, and leukocytes are increased. Abortion shows an enlargement of the uterus with patent os much in evidence. There is an abscess of the tender mass in the fornix or cul-de-sac. These conditions are very hard to differentiate at times without a good history.

Ovarian and broad ligament cysts are usually not tender on examination. This in connection with the history and absence of signs of pregnancy will usually differentiate.

Lejar says: "That a diagnosis is often difficult and mistakes frequent, no one will deny, and the most conscientious examination will often be powerless to avoid such mistakes; but practically all that is necessary is a diagnosis of necessity for operation; in other words, a recognition of perfectly definite indications, and this is always possible."

Great harm might be done by a rough, forceful examination.

The mortality as given by Schauta reckoned on a basis of 241 uninterfered with cases of extrauterine pregnancies is 68.8 per cent.

In the early months death is almost always due to hemorrhage; later it is caused by septic peritonitis, or rupture of the sac into a bowel.

The treatment of extrauterine pregnancy is clearly and definitely indicated. Before the fifth month the only sane thing to do is to operate. Worth says that an extrauterine pregnancy in the early months must be looked upon as a malignant growth, and it is only from the seventh month of pregnancy—after the child is viable—that it has any claims to consideration.

The type of operative treatment depends upon the complications in a given case. Early cases with or without rupture, when clean, are undoubtedly best treated by the abdominal route, with removal of blood clots and the affected tube.

By this method any tendency to hemorrhage can be dealt with promptly. These cases are closed without drainage.

Old cases with large immovable blood sacs may be treated by opening through posterior vaginal fornix where contents may be cleaned out and drainage instituted. There is some danger however of having to deal with a severe hemorrhage or a punctured loop of adherent bowel. Infected cases should be drained through the cul-de-sac. This, if done carefully, protects the general peritoneal cavity from infection. Any case observed during active hemorrhage should be operated upon at once by the abdominal route. The copious use of normal salt solution subcutaneously in severe cases of hemorrhage is a life-saving measure.

Case 1. The first case is reported because of its typical essential points. Mrs. O. S., American aged

28 years; well nourished; two children aged five and eight years. Three years ago she had a miscarriage; since that time had had pain in the pelvis, especially involving the left side during menstruation. Menstruation regular, 28-day type until November and December last, she did not menstruate for 6 or 8 weeks regularly, only a slight flow appearing at the time. On Christmas day she had sudden agonizing pain in the abdomen associated with collapse. She was put to bed and remained there, gradually recovering from the shock, but pain and tenderness persisted. She entered the hospital on January 9, 1914, on a stretcher. I had not seen her until this time. Examination revealed a rather rigid, tender abdomen. Uterus slightly larger than normal in ante-position. There was a palpable tender mass in the cul-de-sac extending to the left side, associated with a slight bloody discharge from the uterus. Temperature normal, pulse ranging from 70 to 90. She was operated on January 14 by abdominal incision. As soon as the peritoneum was opened there appeared a dark blood clot from the left side of the pelvis, extending down and filling the cul-de-sac. The fetus and membranes were partially extruded from the left tube, and implanted on the left ovary, uterus and sigmoid. The left tube was removed, abdomen cleared of foreign material and closed without drainage. She made an uneventful recovery.

Case 2. The second case illustrates some of the difficulties encountered in diagnosis and treatment. Mrs. L. S., French, aged 30 years; well nourished, two children aged four and seven years. We were unable to get a satisfactory history owing to the necessity of an interpreter. She had not menstruated for six to eight weeks, when in the latter part of January, while bathing, she had sudden severe pain in the abdomen and fainted. She was put to bed and remained there. She had continuous bloody discharge from the uterus, rather alarming at times, associated with continuous pain. I saw her for the first time February 14, 1914, when she entered the hospital on a stretcher. She ran a temperature from 99 to 100 degrees, pulse 70 to 90. White blood cells 16,000 on entering. A mass was made out extending above the pelvic brim about the size of a three or four months pregnancy. Vaginal and rectal examinations revealed a large fixed mass not especially tender, filling the entire pelvis. It was semi-fluctuant. The uterine hemorrhage persisted with rest in bed and use of ergot and hydrastis. March 1 the uterus was sounded and curetted gently. It was found to be ante-flexed, somewhat enlarged and soft. Aspiration of the cul-de-sac revealed a dark liquid blood which was sterile. We did not have permission to go into the abdomen, so she was put back to bed. Uterine hemorrhage persisted. March 10, having permission to operate, the abdomen was opened to find the left tube and ovary, sigmoid and loops of small bowel bound into a dark sac, filling the pelvis and adherent to the posterior wall of the uterus. The loops of bowel were carefully freed, the sac opened was found to contain dark liquid blood and clots.

It was cleansed out thoroughly, leaving the walls dry and closed. The left tube was removed. We hesitated to remove the sac which was very intimately adhered to the rectum and lower sigmoid. The abdomen was closed without drainage. She did nicely until about the fifth day, when uterine hemorrhage appeared again. Examination at this time revealed the tumor mass of original dimensions. The sac was then opened through the posterior vaginal fornix, tube drain inserted. With this done our battle was fought. The mass gradually disappeared and the uterine hemorrhage ceased. She walked six miles on June 16, to pay me a social call, at that time the pelvis was apparently normal.

Case 3. The third case is reported because of its very unusual course and termination.

Mrs. L. S., a very intelligent American, aged 28 years; well nourished. Had been married about seven years, no history of former pregnancy or menstrual disorder. Saw her December 26, 1914. The history dated back to February, when she had her last menstrual period. The first four months were very stormy with pains in the abdomen and back associated with nausea. The faintness and pain were so severe about the third month that it was almost unbearable. After this period nothing unusual occurred. The abdomen enlarged regularly; fetal movements became very vivid. On the night of December 24 she thought she was in labor all night, but made no progress. On the morning of December 25 fetal movements ceased and her supposed labor pains let up. December 26 there was found a large abdominal tumor mass reaching to the ensiform, nodular with crepitation in the upper part, no fetal heart tones. Vaginal examination revealed a tight, small cervix, anteriorly placed with the cul-de-sac full.

Permission to operate was gained on December 28. In the meantime there had been no temperature above 99 degrees and pulse around 80. The abdomen was opened in the mid-line coming right down on the membranes. An eight-pound baby boy was removed, perfectly developed and unusually well nourished. The membranes were attached firmly to the entire large bowel, right tube and ovary posterior wall of the uterus, sigmoid and rectum. The small bowel and omentum were completely free. The omentum presenting a very interesting picture of "hands off," shriveled and drawn up in the upper part of the abdomen. A drain was left in the abdominal wound and a tube drain in the cul-de-sac after the membranes had been dissected loose and removed. The woman recovered.

TUBERCULOSIS.*

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This is a subject we all ought to be deeply interested in, for I believe there is not a member

present but what is or has been infected with it or has some friend or relative that is or has been infected with it, and it is a subject so great that were I to read from now until the end of our session, I would but have started. It is also a subject as deeply interesting to the laity as it is to the medical profession.

The amount of work that has been done to overcome the ravages of this dreaded disease is stupendous, both in research work to discover a cure and in teaching the public the precautions necessary to take to prevent its spreading.

All of us know that it is a curable disease and we all know that it is a preventable disease, we also know that it is the cause of about ten per cent. of all the deaths that occur from disease, and knowing these things, what is the reason of such a large per cent. of deaths caused by a disease that is both preventable and curable? My own opinion is that there are too few cases diagnosed in the incipient stage. I have had a colony for the treatment of tuberculosis since 1912, and I have not received a single patient in the incipient stage.

I think one big mistake made by most physicians is in not making a diagnosis of tuberculosis until the sputum proves positive by microscopical examination; when that is done we have an open case that is past the incipient stage and is sometimes in the far advanced stage.

How many physicians, especially country physicians, make a Widal before diagnosing typhoid? How many make a culture before diagnosing diphtheria? and so it is with numerous other diseases—the symptoms are noted and treatment begun and good, quick results are obtained.

Now, why couldn't the same thing be done with tuberculosis? If a patient presenting the symptoms of tuberculosis comes to you for advice and treatment, why don't you make a diagnosis of tuberculosis and treat it as such instead of waiting until the sputum is positive before making the diagnosis? The answer I get to that question from a great many physicians is this: "If I tell a patient who is able bodied and not sick enough to be in bed that he has tuberculosis I get the laugh and he immediately goes to Dr. Brown, who tells him there is nothing wrong with him except a little run down and a slight cold, etc., and he gets the dollars."

It is regrettable that such occurrences are not

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rare, but some one said he "Would rather be right than President." Now, wouldn't you rather be right than treat a person for tuberculosis and tell him there was nothing seriously wrong with him? Because if you do that it is impossible to treat a case properly.

A case of tuberculosis can not be properly treated until you have a plain heart to heart talk with your patient, gain his confidence and get his good will and hearty co-operation for in my opinion the successful outcome of the treatment depends about ninety-nine per cent. on the patient himself.

If your patient has not enough confidence in you or intelligence enough to recognize an honest effort made for his welfare then you are better off without such a patient and your conscience is clear.

I believe that the sooner more of us make diagnosis of tuberculosis without waiting for the sputum to be positive and the sooner the laity is taught that tuberculosis can and ought to be diagnosed before the sputum is positive and that, that is the best time for the patient to be cured, the sooner we will cut down our death rate.

Suppose you say there will be room for a great many errors of diagnosis that way.

If there are a great many errors made as long as they are on the side of safety there can be no harm done, on the other hand, there is a great deal and often irreparable harm by waiting too long to make the diagnosis.

I am not going to take up your time by going over the symptoms and treatment of this disease, for there are many good books on the subject which can be taken up when you have the time to devote to it that is necessary.

Conditions would be ideal if there was some infallible test we could use to make a diagnosis, then after making it have a specific to cure it; but until they are discovered I think a great deal of good will be accomplished if each and every physician will make an early diagnosis and help educate the public that the earlier the diagnosis is made the quicker, better, and more permanent results will be obtained from the treatment, and more cases will be cured. I believe that it takes more courage on the part of a physician to make a diagnosis of incipient tuberculosis than it does for any other professional duty he has to perform, it also takes a great deal of skill on his part to make a diagnosis of incipient tuberculosis, and

that is the time a diagnosis is of the most value to the patient, to the patient's relatives, friends and community.

After you have made the diagnosis what are you going to do to obtain the best results for the patient, and the patient's family and friends? The *Illinois Health News*, which is our state board of health's official monthly bulletin, in the issue of September, 1916, says:

"Except in rare instances where the home conditions are unusual and where money can be spent freely, home treatment is not apt to be successful.

"Tuberculosis is not an illness of a week or of a month and the cure is often just as slow in producing results as the disease was in manifesting itself. This prolonged period of treatment makes for laxity.

"This is the extreme danger of home treatment—the tendency to laxity which, in many cases, is fatal."

The cure of tuberculosis in any stage is no child's play but requires the utmost skill and effort on the parts of the physician in charge and the patient, and especially of the patient, as it means a complete change in the life and habits of the patient and requires all of the assistance and encouragement that can be given by everyone that comes in contact with him.

There is required just as much change in their habits as is required of the men that go to training camps to be made into soldiers and there is just as much chance for them to get it at home as there is for our boys to be trained for soldiers at home.

A person fighting for his life against tuberculosis needs a great deal of training and as much instruction as can only be gained by constant supervision in order to bring about a favorable result.

I do not wish to be misunderstood and have you think I am trying to impress upon you that it is impossible to treat or cure tuberculosis at home for such is not the case; there are thousands of cases cured at home.

What I do wish to emphasize is, that to reduce the death rate of a disease that we know to be preventable and curable it will be necessary for a more concerted effort on the part of physicians in the future than there has been in the past, to get a sanitarium in each county where every case of tuberculosis regardless of the stage

may be treated. By removing the patient from home you will prevent infection of other members of the family and possibly some friends which alone will reduce the number of cases a great deal.

If each county will have an institution built expressly for the treatment of tuberculosis and if possible not have it in the same city as they have the county farm so that it can not possibly be associated in people's minds with the county farm, thereby removing the dread and horror most people have for county institutions, it would not take long for the people themselves to become educated to the value of such an institution and every case of tuberculosis in the county would be glad to be treated at such a place and I am sure by having an institution of that character there would be at the head of it some man that gives his entire time and attention to the treatment and care of tubercular cases, thereby, on the whole, giving better treatment and consequently getting better results.

If we could work on the theory that the prevention of one case is better than the cure of half a dozen or even a dozen, then we could see the great advantage of getting all the cases in a county together where they all could be given proper treatment as well as the necessary instructions regarding their conduct, mode of living and care they should take to prevent infecting others with their disease, and from an economical viewpoint the saving both of lives and money can not be calculated because there is no way of knowing how much money is being spent annually for the treatment of tuberculosis in any one county, but by looking over the death records you can see how many deaths have been caused in any year by it, and if we had a county institution and all the cases in the county treated at this institution then, in several years, we could see if there had been a reduction in the death rate and we would also know just how much tuberculosis was costing that county.

I believe until we adopt some method whereby we have a better opportunity to prevent these cases from infecting others, the work of reducing the death rate is a very slow and difficult task, and I also believe that institutional care and treatment is one of the best methods of eliminating the danger of infection known today, but in order to get full and equal results it must be

necessary for every open case to receive such treatment and instructions. This in turn would require the building and maintaining of public institutions and the compulsion of every open case of tuberculosis being treated at some institution whether public or private at the patient's own discretion.

If the government would build and maintain these institutions then, no doubt, there would be some standard treatment, thereby insuring every patient, rich or poor, the treatment recognized and adopted by the government, thus reducing the danger of all the patent medicines and fakes that these patients are exposed to.

A PLEA FOR THE INTENSIVE TREATMENT OF NERVOUS DISEASES.*

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We believe we are not overstating the facts when we assert that there is more invalidism due to perfectly curable nervous diseases than to any other one class of diseases, and what is worse, there is more absolute wretchedness and unhappiness wrought by the functional neuroses than from any other diseases, since their baneful influence, when the psychic centers of the brain are involved, is not confined to the patient himself, but extends to the home, and often to the social sphere in which the patient moves.

The course of many of these diseases is characterized by exacerbations and remissions, and is often accompanied by connubial unhappiness, which may eventuate in estrangements and divorce, and if unchecked or not cut short by death from complications or intercurrent diseases, may ultimately lead to suicide or the asylum.

Notwithstanding their curability, it is not unusual for members of the medical profession not specially versed in these diseases to express the opinion that the prognosis of nervous diseases is unfavorable, and laymen often assert that medical treatment is useless. If there is a *bona fide* basis for such conclusions, we believe it is due to factors other than the impotency of the indicated remedies. Certainly we are not to be understood as claiming a cure in all classes of

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diseases of the nervous system, nor in all cases of the more curable classes, neither can such be claimed of any special branch of medicine; so that we speak generally and with due knowledge of the impossibility of restoring degenerated or organically changed organs or tissues wherever found; however, it is generally recognized that such conditions are often preventable by timely treatment.

For the purpose of elucidation, we believe our subject may be advantageously subdivided into the following headings:

1. Characteristics.
2. Procrastination.
3. Indifference.
4. Self-medication.
5. Intensive treatment.

Considering these seriatim; under (1) Characteristics, it is only necessary to remind you that many, if not most, diseases of the nervous system are essentially of slow onset—even insidious—or become chronic by reason of insufficient or inefficient treatment by virtue of which they become so “firmly rooted” that treatment necessary for a cure is so prolonged that the afflicted often have not the patience to persist until a cure is effected; the result of which is that organic changes, degeneration and sclerosis, occur, when complete restoration is impossible.

Again, the central nervous system is the fountain head of animal dynamics, hence, when diseased the entire organism in time becomes deranged, i. e., there results impaired digestion and assimilation, enfeebled circulation and respiration, and deficient excretion, with weakened volition control, from which is established a vicious circle of action and reaction until, untreated, exhaustion is the final outcome. In other words, the storage battery of physical and mental energy is low, the generators defective, insulation imperfect, with a constant supply of power to maintain.

Therefore, the fact that improvement is often slow should create no surprise, particularly if treatment be given with the object of restoring the debilitated nerve cells, and not for the purpose of temporary relief through stimulation, which, to satisfy intolerant or restive patients, the physician is too often tempted to do.

2. Procrastination. Since the progress of

nervous diseases, and especially the functional neuroses, is marked by exacerbations and remissions, the patient often vacillates regarding treatment; before an exacerbation causes him to decide to consult a physician, a remission of his symptoms leads him to believe he is improving, and another exacerbation is often accompanied by the hope, if not by the actual belief, that it is but temporary, as was the preceding, and so on, until his suffering becomes so acute and constant that he is forced to obtain relief.

That treatment often may be long delayed is explained by the fact that debility of the nervous system is accompanied by irritability of the nervous elements, which reacts as a stimulant to the already weakened nerve cells, not only sapping the residual energy, but in time, actually deadening their sensibility, so that the patient may continue on the downward path in blissful ignorance until collapse finally ensues, from which recovery is usually slow and eventful.

Another frequent cause of delayed treatment results from the kindly (?) assurance of relatives or friends that the afflicted looks perfectly well, which is often true, and that his complaints are “imaginary,” which is far from the truth and a great injustice to the afflicted.

To those versed in these diseases, it is unnecessary to state that physical appearances and at times even the patient's own feelings, are deceptive as previously indicated, hence, it remains for the physician, by a thorough and complete examination, to detect the true physical condition.

The regular medical adviser is not always free from blame for delay in treatment, since he too often treats the case lightly, and dismisses the patient with such advice as, “you will outgrow it,” “forget it,” or possibly, with the assurance that “there is nothing the matter.”

3. Indifference. When at last the nervously afflicted undertakes treatment, he is often in such a mental state that he does so with either a feeling of uncertainty or actual unbelief as to the outcome, and if he carries out the treatment, it is with indifference, either from the lack of faith or enthusiasm, or, possibly, because he is unwilling to have it interfere with his usual duties or pleasures.

It is difficult and often impossible for the patient to understand that to “take treatment”

means to place himself in the care of the physician, in whom he must have confidence to actively follow instructions, but passively to yield himself absolutely to the guidance of the physician. As aptly expressed by Beard: "The attitude of a patient should be that of a voyager who resigns himself to the captain and does not look for the further shore until the time comes."

Hereto, the attendant is not always guiltless, since he often fails to impress the patient with the necessity for keeping under the supervision of the physician and of always reporting in person before his supply of medicine is taken, and of course more frequently, if the physician deems it necessary.

4. Self-medication. There is no greater cause of failure to recover from nervous diseases than self-medication, by which is not necessarily meant self-prescribing, but the regulation by the patient of the remedies prescribed by the physician.

Patients often fail to comprehend that it is not the remedies themselves that produce the results, but the manner of their use; tools do not make a craftsman, neither does the possession of drugs make a physician. Ignorance of this truth frequently proves disastrous.

It is not unusual for a patient to consider he has "taken treatment" from a physician whom he has consulted once or twice, possibly thereafter having the prescriptions refilled and taking the medicine as his own indifferent medical judgment dictates.

It is for the physician to explain the difference between desultory medication and systematic treatment, no matter by whom prescribed.

The physician should try to impress those afflicted with such chronic functional diseases as neurasthenia or such degenerative diseases as locomotor ataxia, with the necessity of more or less prolonged treatment under the direct observation of the physician after relief of the symptoms if permanent results are to be assured.

This is most difficult because of erroneous advice of well-meaning friends and the extravagant and impossible claims of the quack and pretender, with the latter of whom, patients often flit away valuable time—time which may decide between final success and failure.

In brief, if through persuasion, or the educa-

tional method of psychotherapy, the physician makes the patient understand the nature of his ailment, the obstacles to be overcome, the rationale of treatment, the object of medication with its benignity under professional supervision, and convinces him of the necessity for rejecting all other advice during treatment, then the patient will have the proper "mental attitude" for the "fifth degree," namely the intensive treatment, properly so-called, by which is meant that the patient makes all else subservient so far as necessary, and that he consistently follow the advice and instructions of his physician, or apprise the physician of his dereliction that the physician may if possible compensate for his shortcomings. In turn, the physician must cooperate to obtain the end sought in the shortest possible time, which even then often will appear to the patient unnecessarily prolonged.

To do this, the physician must recognize that to lift a hundred pound weight, at least one hundred pounds of force must be exerted at one time; not ten pounds at ten different intervals of time. Failure to apply this truth, is a frequent source of failure in the treatment of diseases of the nervous system, in which the full therapeutic effect of drugs must often be obtained before improvement can be expected.

Another essential for success is a knowledge of the therapeutic and physiological effects of the drugs prescribed, together with the knowledge and experience necessary to recognize when they are indicated; then to increase until one or the other of these effects is obtained, which will reveal to the experienced physician whether the drugs should be continued or replaced by others.

To reduce our theories to concrete form; to successfully treat a case of neurasthenia, aside from temporarily aiding digestion, sustaining the circulation and maintaining excretion; it is necessary to tranquilize the nervous system in order to conserve its energy, as well as to secure sufficient sleep to restore the overly tired nerve cells—since sleep is "nature's sweet restorer." To accomplish this "quickly and pleasantly," more than the normal amount of sleep should be obtained. Herein constitutes the cause for most failures of medical treatment, since the patient and often the physician fears ill effects from the indicated drugs, because the patient does not

understand their object and effect, and the physician has not a working knowledge of their use.

He who cannot properly wield the knife or fears the possible danger from the ignorant or unskillful use of it, obviously should not use it; neither should he jeopardize life or limb by using less radical treatment when the knife is clearly indicated and may safely be used by the competent operator; nor should one for the same reason discourage the patient from having the knife used by one who is capable of using it, and thus deprive the patient of a safe, speedy and permanent recovery.

Because people recover without active medication and occasionally in mild cases without medical treatment, is a poor argument against energetic treatment in all cases, since active treatment will not only abridge the period of recovery and cause it to be less eventful in all cases, but will prevent the disease becoming more "fixed" and diminish the possibility of the development of complications or acute diseases to which patients by reason of the accompanying debility are more prone.

Again, let us consider those common organic degenerative diseases, paresis and locomotor ataxia, which are now recognized as susceptible of cure; by which it is not to be understood that all cases are curable or that the degenerated nervous elements may possibly be restored, but the progress may be stayed and those nerve cells which have not been destroyed may be developed to such an extent as to so compensate for the destroyed elements as to constitute a practical recovery. From which it may be seen how vital is an early diagnosis, how necessary is timely treatment, and how essential that treatment be vigorously applied and persistently carried out.

Failure is more often due to the improper or unskillful use of the correct remedies than to the use of the wrong ones; in other words, failure is more often due to the misuse, than to the disuse, of the correct remedies.

It behooves us then, not only to understand nervous diseases and their treatment, but also to educate the laity that we may have their cooperation in restoring the afflicted, as well as in preventing the development of these diseases in those predisposed.

Metropolitan Bldg.

DIAGNOSTIC VALUE OF THE X-RAY IN ADVANCED PULMONARY TUBERCU- LOSIS.*

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and

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Pulmonary tuberculosis or consumption was recognized and ably described symptomatically by Hippocrates. With the work of Sylvius and later of Morton, began the pathological study of this disease. Laennec, in addition to his demonstration that phthisis and tuberculosis were identical in their nature, gave us the principles of auscultation. This in combination with the technique of percussion by Auenbrugger placed the physical diagnosis of this disease on a firm basis. Not until 1882 was revealed the specific causative agent of this disease—the bacillus tuberculosis of Koch.

Unless we include the tuberculin diagnosis in its many forms as of definite value; a factor denied by many tuberculosis workers, nothing of great note has been added to aid in the diagnosis until the event of chest studies by the Roentgen Ray. It is only in the last few years that the work in Roentgenology has been placed on a practical basis by such men as Dunham of Cincinnati, Cole of New York and Hickey of Detroit. With the improvement of apparatus—improved fluoroscopic methods—the use of stereoroentgenograms instead of flat plates and finally more exhaustive co-operative study of x-ray and post-mortem findings; gradually there has evolved a distinct addition to our methods of diagnosis and one destined to be of as great value in its field as have Roentgen studies been in surgical diagnosis.

Roentgenoscopy has been described as the visualization of internal pathology in the living and, if properly interpreted, represents the findings on the autopsy table. The fluoroscopic lung examination reveals the darker areas of density produced in the lung by fibrosis or consolidation, shows us the failure of the apices to light up on coughing if they be the seat of tubercular involvement, shows us the movement of the dia-

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phragm; a visual demonstration of the Litten sign of our student days and especially shows the accumulations of fluids obliterating the angles of the diaphragm. Cavities manifesting themselves as bright areas often surrounded by a dark wall are easily demonstrated.

In the graphic study it has been shown that a single flat plate is of but little value in chest work. With the event of stereoroentgenograms careful study of heart and lung changes can be made. The areas of density reveal themselves by grayish or whitish zones and in lung pathology it is presumed that the denser the shadow the older is the lesion. The spread of the disease from the hilum of the lung toward the periphery, by fan-shaped lesions along the lung lymphatics as first demonstrated by Dunham, can often be recognized. Cavities and their walls or areas of pleural thickenings can be outlined. Many other minor points can be elicited by careful study of the plates.

The diagnosis of early pulmonary tuberculosis is usually recognized as one of the difficult tasks in internal medicine. On the other hand, it has been accepted generally as a truth that the diagnosis of advanced pulmonary tuberculosis is made with the greatest of ease. Yet various institutions for the advanced consumptive report that from 10 to 15 per cent. of all cases admitted prove on careful study to be non-tubercular. This has been our experience in our hospital service. Again, conversely, one sees on the autopsy table, cases presumed to have died of other chronic diseases that are found to have succumbed to an unsuspected pulmonary tuberculosis.

Thus we can readily see that any added procedure to our old methods of clinical history—physical examinations—clinical course and chemical laboratory findings, would be exceedingly welcomed if it helped to obviate the error in the 10 to 15 per cent. of cases previously noted. To get a concrete idea of the practical and diagnostic value of the x-ray examinations, a study was made by us of one hundred (100) cases. While this number is not large we found that the figures of our last fifty cases were practically identical with those of our first fifty and that in general the results of the entire work was identical with such work as has been previously reported in the literature.

Our work was done at the Cook County Hospital of Chicago. All of our cases had been admitted as advanced pulmonary tuberculosis. We have not attempted as yet to do any work on early cases of phthisis chiefly owing to the fact that our institution admits only the advanced consumptive. Our cases have not been selected but taken for study as admitted excepting only the moribund patients. In this investigation we have attempted to compare the old methods of diagnosis with the findings of the x-ray fluoroscopic and plate study in our series of cases.

In passing, I desire to say, that we personally saw all of our cases fluoroscoped and had the opportunity of examining the stereoroentgenograms. This study developed certain impressions as to the value of various factors in chest roentgenoscopy. First, that to be able to interpret either the fluoroscopic or plate findings it was necessary to have a definite clinical knowledge of tuberculosis and its application to the anatomy and pathology of lung diseases in general. That one not versed in diseases of the chest would not be as reliable in his interpretations as one who understood the subject. Furthermore, came the belief that in the majority of far advanced cases of tuberculosis, given a good history and careful physical examination, a fluoroscopic examination alone, would serve. That a stereoroentgenogram in doubtful cases, was of more value than the fluoroscopic but that the combined examination was the method most desired. It was noted beyond any question in our mind that the recent use of stereoroentgenograms instead of the single flat plate, was a great advancement resulting in a better study of chest conditions and that wherever possible the stereoplates were to be preferred.

A COMPARISON OF RESULTS FROM THE STUDY OF "CLINICAL HISTORY" AND X-RAY FINDINGS.

As a factor in diagnosis of disease, the clinical history has always been recognized as one of the greatest importance. Especially is this true in pulmonary tuberculosis. As important cogs in clinical history we included the incidence of cough, expectoration, night sweats, loss of weight, loss of strength, afternoon temperature, general lassitude, hemoptysis, amemorrhoea and chest pains. If the patient had several of these symptoms as for example, loss of weight and strength, cough and hemoptysis, he was classed

as having a positive clinical history pointing to a pulmonary tuberculosis. Our clinical conclusions and our x-ray findings gave us the following:

Total number of patients examined.....	100
Clinical history positive, x-ray positive.....	85
Clinical history negative, x-ray positive.....	4
Clinical history positive, x-ray negative.....	4
Clinical history negative, x-ray negative.....	7

Thus we found an agreement of results in 85 per cent. of our supposed positive cases and a further agreement of 7 per cent. in cases thus classed as negative. In the eight (8) cases where the clinical history and the x-ray results were at variance, a study of the cases as to the cause of the differences developed the following: Of the four cases classified as clinically negative but x-ray positive, in one all other factors pointed toward a positive diagnosis. Three of the cases are classified as clinically negative owing to the fact that we were unable to speak the language of the patients or secure an interpreter to aid us.

In the clinical history positive but x-ray negative are three cases of pleurisy with effusion in whom no lung changes could be demonstrated by x-ray technique. One case with loss of weight and strength associated with a presumed hemoptysis after careful study proved to be a gastric ulcer case. Also it is of interest to note one case classified as clinically and x-ray positive that after investigating her previous history at another hospital was finally diagnosed as a sarcoma of the lung secondary to a sarcoma of the inferior maxillary.

Analyses of Results of Physical Findings and X-Ray: Routine physical examinations were made on all of the cases and only those classed as being positive, showing evidence of percussion changes—roughened or prolonged expiratory notes—and the presence of rales especially after coughing. The comparative table gave us the following:

Total number of patients examined.....	100
Physical findings positive—X-Ray positive.....	87
Physical findings positive—X-Ray negative.....	3
Physical findings negative—X-Ray positive.....	2
Physical findings negative—X-Ray negative.....	8

Ninety-five per cent. (95 per cent.) of the cases gave similar results by these two methods of diagnosis. Under the caption of “physical findings positive and x-ray negative” are the three cases of pleurisy with effusion. And even they

might be classed in group one as we know from experience that 95 per cent. of all pleurisies are tubercular. In our two cases with negative physical findings, but positive by x-ray, the clinical picture indicated phthisis and furthermore tubercle bacilli were found in the sputa of both patients. In each case we re-examined our cases and again failed to locate the pathology. On this phase of the work Manges states in an article in the *Penn. Medical Journal*, “We are convinced by frequent x-ray observations as well as by autopsy reports that extensive fibrosis may be present without producing physical signs.” It is also interesting to note here that our case of lung sarcoma on physical examination gave a typical picture of advanced pulmonary tuberculosis and the x-ray findings were equally deceptive.

Laboratory Findings and X-Ray: The examination of sputa was done by our laboratory technician. The majority of the examinations were made by the usual Ziehl Nielsen staining methods. In a few cases the antiformin method was used. His reports as compared with the x-ray findings gave us the following:

Sputum positive—X-ray positive.....	74
Sputum positive—X-ray negative.....	0
Sputum negative—X-ray positive.....	18
Sputum negative—X-ray negative.....	8
Total number of cases.....	100

In this series of “sputum negative and x-ray positive” is our case of sarcoma of the lung. It is to be noted that examination of sputa gave us the greatest number of discrepancies in results obtained. We did not attempt to do or have done other methods of laboratory work, such as, presence of albumin in sputum, diazoreactions or blood changes as our past experiences have been such that we do not place a very great importance on them in the field of chest diagnosis. The eight (8) cases under the headings, “Physical Findings and X-Ray Negative” and “Sputa and X-Ray Negative” are cases of cardiac, kidney and stomach diseases admitted through error in the examining room. None of these cases in any way were suggestive as being of pulmonary origin except the case of gastric ulcer reported under the caption of “Clinical History.”

Extent of Lesion as Compared by Physical Findings and X-Ray: In our study as to the extent of our lesion, we found that in 59 positive tubercular cases the physical findings and the

x-ray were in accord. With one exception all of the remaining cases presented by roentgenoscopy a greater pathology that we could determine by physical signs. Largely based on the extent of lesion is the prognosis and treatment and it is of greatest interest to learn the true valuation to be placed on this phase of the x-ray examination.

In the relatively small number of our cases that were autopsied, twelve in number, the post-mortem findings concurred with those of the x-ray. The chief points of difference being the greater involvement of deeper areas of the lung and the findings of small undiagnosed cavities and small accumulations of fluid. To again quote Manges, "It is true in many instances that when physical signs are positive the roentgenogram reveals a far more extensive lesion than was suspected and complications entirely undiscovered by physical signs."

Studying the statistics in this paper, one must be impressed with the favorable results obtained by a thorough x-ray examination and even be led to believe that at last we have the royal road to chest diagnosis; that no longer is a physical examination a necessity and that the x-ray laboratory can make the diagnosis as readily as the clinician. And again on the other hand, we have over 90 per cent. of all the cases correctly diagnosed in the main by physical examination and it raises the question among clinicians, "Why have the x-ray work at all?"

We have cited errors in interpretations of all the clinical methods. While illogical errors of the x-ray are not many in our series yet we have had cases where the diagnosis of tuberculosis had been made by the x-ray alone which later on careful study and correct interpretations of added roentgenograms have proved such cases as non-tubercular. A complete postmortem alone is 100 per cent. perfect; a condition of affairs of but little interest to our living cases.

Therefore, in conclusion, let us state that as none of us would make a diagnosis on any one element in our former methods of clinical study, let us not use a valuable adjunct alone on which to base our conclusions but instead, whenever possible, add it to our resources and thereby better the standard of our medical work.

30 North Michigan Ave.

CHRONIC LEAD POISONING IN THE ETIOLOGY OF PERNICIOUS ANEMIA.*

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CHICAGO.

Though the underlying cause, or causes, of pernicious anemia are still obscure, the shell of the condition as an idiopathic process is gradually being chipped away. That this applies to so-called cryptogenetic affairs generally is well-known to all who keep abreast of medical progress. In the case of pernicious anemia the big step forward was the adduction of proof that the condition is a hemolytic process. Then as contributory evidence it was shown that certain conditions associated with hemolytic action might produce a clinical and hematologic picture indistinguishable from that of pernicious anemia. Among such causative diseases—the proof being that the removal of the cause, if early enough, carries with it a complete cure—are infection with the *dibothriocephalus latus*, syphilis and infections which now we are accustomed to consider collectively as focal. An instance typifying this last group was cited in a recent meeting of this Society, namely, a case of chronic appendicitis regarded for a considerable period as one of true pernicious anemia, excepting only the high eosinophile count, which went on to recovery when an exacerbation of the appendicitis made operation necessary.

From the trend of my remarks it has perhaps been noted that I distinguish sharply between the so-called primary or Addison-Biermer type of pernicious anemia and those forms occurring in the course of certain other processes, such as malignancy, especially of the stomach, cirrhosis of the liver, ulcerative endocarditis, nephritis, malaria, etc. I am inclined to agree with those observers who maintain that the Addison-Biermer type can in the vast majority of cases be separated on the basis of the hematologic picture—the red cell type, whether predominantly large or small, the behavior of the leucocytes, the color-index, etc.—from those other conditions I have called secondary. Therefore, when I use the term pernicious anemia I refer to the smaller, sometimes called essential, group.

There are widely divergent views held as to the mode of entrance or place of elaboration of the

*Read before the Chicago Society of Internal Medicine, December 17, 1917.

responsible hemolytic agent. There is no difficulty in understanding this point in the case of focal infection due to a hemolytic streptococcus, nor in dithriocephalus latus infections. Another theory that has been much emphasized in recent years lays stress upon the gastric and intestinal mucous membranes as the parts through which the responsible toxin is absorbed. As proof of this is cited the atrophy of the lining of the stomach which is an almost constant autopsy finding; and upon this theory is based the therapeutic use by some of hydrochloric acid in large amounts.

The particular phase of this etiologic theme which I wish to discuss has to do with the relationship of chronic lead poisoning to pernicious anemia. The literature bearing upon this point is rather meager. I emphasize once more that I am considering only cases conforming strictly to the Addison-Biermer formula, not the severe anemias, due to lead, but distinctly of the nature of secondary anemias. Grawitz¹, speaking of Erben's analyses, says: "Examination of the blood for iron and other constituents in a case of lead poisoning revealed a relatively high content of that metal in the blood, due in part to the presence of iron in the serum. This fact plus that of the increased fat content of the blood speak for an augmented cell destruction in lead poisoning just as in pernicious anemia." The same observer found megaloblasts in a case of chronic plumbism which recovered. Naegeli² conceives of the possibility of a blood poison like lead producing the same picture as does pernicious anemia.

Schnitter³, in a monograph devoted to the blood findings in lead poisoning, divides his cases into four groups, of progressive severity. In the early cases, lead acts as a bone-marrow stimulant causing the usual and well-known picture of basophilic granulation, polychromatophilia and leucocytosis. As the toxin exerts a more extended or severer action the bone-marrow gradually becomes exhausted, the above mentioned signs of regeneration disappear and the picture becomes that of a marrow which no longer responds to stimuli with post-embryonic cells but with the fetal type as in pernicious anemia. This is not the case in the most severe secondary anemias, for in the latter the cell-type

remains small and the leucocytes are usually somewhat above the normal mark.

I have been unable to find actual case reports bearing upon this assumed transition from lead poisoning to pernicious anemia. It is for this reason and because I have had an opportunity to study such a case that I have undertaken to discuss this etiologic phase of pernicious anemia.

The patient whose case I wish to report worked at a modern linotype machine in a large printing establishment in this city. The ventilation in this plant was apparently inadequate and the opportunity was present for the inhalation of fumes from the molten lead alloy. In addition, and of much more serious import was the fact that the man was also a machinist whose duties in this particular establishment required the frequent use of a steel wire brush in the cleaning of that part of the machine called the pump. This work caused the atmosphere in the immediate vicinity to be filled at such times with the very dangerous lead dust. Other distinct cases of plumbism had developed in the same shop. At the time the man was referred to me he was 48 years old and had been a linotype operator and machinist for seven years.

The history showed that though he had not been well for several years his symptoms had not been urgent enough to cause him to consult a physician until 1913, just a year before I first saw him. The records of the physician in charge during the first year of the man's illness and the account of the patient himself and of his son leave little room for doubt not only that there existed two periods in the sickness, the first merging imperceptibly into the second, but also that the primary condition was one of chronic plumbism.

The early symptoms were attacks of severe pain in the abdomen, at times cramp-like in nature, intractable constipation, severe headache, foul taste in the mouth, disinclination for food and general weakness. His color at this time, as distinguished from that of the second period, was distinctly pale. Though the man was, as stated before, in the care of a physician during this first year of his illness, unfortunately no examination of the blood was made, with the result that I am unable to offer evidence either as to the presence or absence of basophilic granulation of the red cells, the type of anemia present or the

number of white-blood corpuscles in the circulating blood. This desideratum represents an hiatus in the ease which is, however, more apparent than real, and for the following reasons:

1. Observers are by no means in accord as to the constancy of stippling in the lead poisoning of printers. In this connection I quote Dr. Aliee Hamilton⁴:

The changes in the red-blood cells, known as stippling, or basophilic granulation, are thought by Silberstein to be very characteristic of the lead poisoning among printers, while Hahn and Oliver dissent absolutely from this opinion. Carozzi takes a middle ground. He finds basophilic granular cells in the blood of printers with chronic plumbism but not as frequently as in men who have been exposed to the soluble salts of lead, for this change in the blood is always in direct relation to the rapidity of the diffusion of the poison, and in type-setting the absorption of poison is of the slowest.

Dr. Hamilton's own conclusion in regard to this matter is:

Here (quoting Cosolo's tables from Carozzi) the proportion of men with granular cells is really larger among the men in other trades than even among the printers known to have lead poisoning. It is evident from these records that the diagnosis of lead poisoning cannot be absolutely decided by the blood examination, although it may be greatly assisted.

2. In the last stages of lead poisoning—and we must assume that the ease under consideration was of that type, having been exposed to the poison in one of its most dangerous forms for seven years—the blood becomes less and less that of the typical lead case, namely, a secondary anemia, with leucocytosis and perhaps basophilic granulation, and approaches the condition indicative of bone-marrow exhaustion as stated at the outset.

In view both of the diverse opinions held as to the importance of basophilic granulation in diagnosis and of the varying blood-picture in chronic plumbism depending upon the stage of the disease, it is evident that the diagnosis must rest chiefly on the symptom-picture. Dr. Hamilton's comment in this connection is as follows:

The diagnosis of lead poisoning is especially difficult in this industry, because only in rare instances are the symptoms typical. The lead line is usually absent, especially if the teeth are well cared for. There may be no symptom of lead poisoning except anemia or granular changes in the red-blood corpuscles * * * and the prin-

cipal help in diagnosis is, according to Oliver, the patient's occupation. Oliver does not find the changes in the red-blood corpuscles often enough in lead poisoning to be of much help in diagnosis; he depends more upon the general symptoms and the record of the occupation. This means that disturbances of health occurring in a printer, as in any other lead worker, must be regarded somewhat differently from similar symptoms in a man who does not come in contact with lead. It would be a fair comparison to say that just as a fever occurring in a man who has been living in a malarial region would have a somewhat different significance to the physician from a similar fever occurring in a man who had not been exposed to malaria, so the physician who examines a printer will pay more attention to certain symptoms often regarded as unimportant because he must always bear in mind the possibility of lead poisoning in such a case.

I have gone into this phase of the matter in detail in order to show that in the case under consideration, presenting side by side a history of long exposure to lead in a notoriously dangerous form, lead dust, and also characteristic symptoms—symptoms, incidentally, which do not belong to the picture of pernicious anemia—the diagnosis of lead poisoning seems not only justifiable but necessary.

Turning now to the second period of the man's illness, all uncertainty disappears. Clinically and hematologically, the ease was one of the essential, or Addison-Biermer, type of pernicious anemia. My history shows the following complaints: Weakness, staggering gait (only in the preceding six weeks), anorexia, nausea and bleeding of the gums. Little of the early headache was present, and no abdominal pain.

The physical examination showed these anomalies: A lemon-yellow skin (which had succeeded the early pallor), with a fairly well-preserved subcutaneous fat; foul breath; a soft blow, systolic in time, over the entire precordium; a pulse rate of 96; a systolic blood-pressure of 103 m.m.; a liver felt three finger-breadths below the costal arch, of normal firmness and with a rounded edge; a spleen which could be palpated two fingers-breadths down; poor muscular strength; knee-jerks which were rather variable, sometimes sluggish and at others brisk; a bilateral Babinski phenomenon; and distinct impairment of deep sensation.

The laboratory regularly gave the following data: *Urine*, negative, except for a strongly

positive Ehrlich urobilinogen reaction; *stools*, negative, and in particular no ova; *blood*, variable as the man's condition improved or declined, but always of the embryonic type, with a color index considerably over one, marked leucopenia with a relative lymphocytosis, practical absence of the blood-platelets, and from time to time a few nucleated red-blood cells, all of the megalo-blastic type.

Making the picture even more characteristic was the occurrence, while the patient was under observation, of a well-marked remission, of sufficient degree to enable him to return to work for a short time. This improvement, however, lasted only a few months, following which the progress to exitus was rapid. Blood transfusion carried out late in the course accomplished little. The condition was too grave for splenectomy.

An autopsy was not permitted.

Summary and Conclusions: In view of the fact that an individual employed for a long period, with improper protection, as a linotype operator and machinist developed a group of symptoms recognized as sufficient for a diagnosis in a printer, of chronic lead poisoning—symptoms, further, not a part of the picture of essential pernicious anemia—and that this same individual passed into a condition the features of which pointed unquestionably to the diagnosis of pernicious anemia of the so-called Addison-Biermer type, the conclusion seems justified that the hemolytic poison, lead, was the cause of the hemolytic, or pernicious anemia.

122 S. Michigan Ave.

BIBLIOGRAPHY.

1. Grawitz: *Klinische Pathologie des Blutes*, 4th Edit., page 411.
2. Naegeli: *Blutkrankheiten. u. Blutdiagnostik*, 2nd Edit., page 411.
3. Schnitter: *Arch. f. klin. Med.*, 1915. CXVII, 152.
4. Hamilton and Verrill: *Hygiene of the Printing Trades*, *Bull. of the U. S. Bureau of Labor Statistics*, Whole No. 209, pages 87-90.

FRACTURES OF THE PELVIS AND RESULTING INJURIES TO THE URETHRA AND BLADDER.*

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When I decided to write a paper on this subject, it was not my intention to give an elaborate

and finished technique on these forms of injuries, but rather to suggest some plan, be it ever so elementary, by which anyone who does surgery can save the lives of these patients.

As to just what your experience has been with this class of injuries, I do not know, but formerly I ran a pretty high mortality.

As we all know, that with the greatest amount of skill we can bring to bear on these cases, they are very serious in character, and are such as to give the surgeon grave concern.

While these cases do not come to the general and railroad surgeon as often as they do the mine surgeon, yet we are frequently called on to treat these forms of injuries.

Statistics tell us that less than 60 per cent. of the pelvic fractures are complicated with injury to the urethra or bladder or both, yet it has been my misfortune to have treated but few pelvic injuries that did not at least involve the urethra.

Symptoms of pelvic fracture: While there may be practically no deformity in fracture of the pelvic ring, there is usually quite marked shock, which is manifested by pallor, anxious expression of countenance, feeble pulse, cold clammy skin and weak voice.

There is always manifest a sense of insecurity on the injured side when an attempt is made to stand on the feet, and usually some outward rotation of the limb.

Oftentimes the deformity may be very marked, and yet it is obscured by tumefaction and extravasation of blood or urine in the tissues.

Crepitation may be manifest when the legs are moved or the patient lifted.

Pain is always manifest when the patient is moved to any appreciable degree.

The greatest care should always be exercised in rotating the limbs, for fear of wounding further the adjacent viscera; in fact, there should never be any attempt made to reduce the fractured bones without first having a good x-ray picture of the entire pelvic ring, and in that way gaining an accurate knowledge of the extent of the fracture.

Without a good x-ray of the pelvic ring the surgeon will sometimes be led into the error of believing they have a dislocation instead of a fracture, and will attempt a reduction, which will almost invariably result disastrously to the patient by the fractured ends of the pelvic bones wounding the bowel, urethra or bladder.

*Read before the Southern Illinois Medical Association, Nov. 2, 1917.

Only a short time ago I was called in consultation to see a fracture of the pelvic ring, and the attending surgeons without having an x-ray, and having a fracture of both the pubes and ischium, had attempted to reduce, as they thought, a dislocated head of the femur. The result was, they had turned the fractured ischium entirely around, and it could not be returned without first cutting down, which caused the additional wounding of a great amount of important tissue.

Some surgeons advise against any attempt at reduction of the fractured bones; if there is no deformity, I think their advice is quite correct, but if there is marked deformity, such as eversion or turning out of the foot, there should be made a short but gentle attempt at reduction; but there should never be any violence attempted, as it can only result in increased shock and further wounding of the tissues, and may convert a simple fracture of the pelvis into one complicating the bladder, urethra or bowel.

When a patient is left with a marked deformity, such as the turning out of one foot, and particularly if that patient be a woman, it mars the appearance of her gait in walking, and diminishes to quite a degree their earning capacity, and last but not least, it does not add to the reputation of the surgeon, and may be a fertile source for a suit to recover damages from the surgeon.

Abnormal mobility may often be produced by steady, gentle pressure over the pubes, or by counter pressure over the illea; frequently in this way you may elicit crepitation. If these efforts produce pain at points not pressed upon, it is of great diagnostic value.

The presence of urine extravasated into the scrotum, perineum or over the abdomen, is also of great diagnostic value, and these conditions must be speedily relieved.

One of the best diagnostic symptoms of pelvic fracture is hemorrhage from the meatus.

In suspected fracture of the pelvic ring, an examination should be made with the finger in the rectum, as with the educated finger, the fractured ends of the bones may be readily detected. Also the presence of blood in the rectum usually indicates that the bowel has been punctured by one of the fractured ends of the bones of the pelvis.

In treating these cases they should be handled

with extreme care so as to prevent wounding of any of the viscera.

They should be placed on the back on a firm mattress or fracture bed.

To lie on the back will in the majority of instances, give these patients the greatest degree of comfort, but occasionally one will be found who is more comfortable lying on the side, and if they are, they should be allowed to assume that position.

The limbs should be drawn up and supported on pillows.

After an x-ray has revealed all the points of fracture, you may proceed to replace the bones in their proper positions, if it can be done easily, quickly and with safety to the patient.

Wide strips of adhesive plaster should be applied around the hips, supplemented with roller bandages, using care to pad the bony prominences with pads of absorbent cotton, so as to prevent undue pressure. The objection being to produce as nearly as possible, immobilization of the parts.

The patient should be kept on the back for four weeks, and in bed for six weeks altogether.

Great care should be taken for the first four weeks to prevent any movements that might disarrange any of the fragments.

The bowels should be evacuated on rubber sheets, and the patient not placed on a bed pan, as that requires some movement of the patient's pelvis.

In the cases of pelvic fracture where the urethra has been entirely severed, it is a beautiful theory for us to say—pass a sound down through the penis to the point where the urethra has been cut in two, and then cut through the perineum to the point of the sound, first locating the penial end of the urethra, and then the vesical end; stitch them together with fine silk or catgut sutures, introduce a soft rubber retention catheter into the bladder, and then sew drainage into your perineal wound, but in practice it is not so easy of accomplishment.

These cases usually come to us after the other fellow has made numerous unsuccessful attempts to draw off the urine of the distressed patient by introducing a metal catheter, (and not always a sterile one either) into the urethral tract, usually resulting in making one or more false passages. When the surgeon attempts to pass the catheter or sound into the bladder, he readily follows the

false passage, and when he cuts down on the end of his sound, he is easily an inch or two away from the wounded ends of the urethra, and is groping in the dark, and any attempt he may make to locate the wounded ends of the urethra only results in failure and further wounding of the tissues.

To my mind the only rational procedure in these cases is to make a reasonable, but gentle effort to pass a soft rubber catheter into the bladder, and if it does not pass readily, abandon that route altogether, and open the bladder suprapubically, pass your sound into the urethra from the bladder and the moment it meets with resistance, stop, then pass a sound through the penal end of the urethra, and nineteen times out of twenty you will feel your sounds come together with a slight metallic click. It is then an easy matter to cut down through the perineum and locate both ends of the urethra, as they are now threaded on your sounds.

There is, however, an occasional case in which the urethra is so lacerated and distorted that you are unable to find the vesical end, as I can recall two such cases, where I failed completely to locate the vesical end. In them I passed a sound from the bladder until I met with resistance, and then one from the penal end until they met, then slipped the outer end of a soft rubber catheter over the sound in the penal end and drew it out through the meatus, then by threading the distal end to the sound in the vesical end it was readily drawn into the bladder. And while the torn ends of the urethra were not sutured, I had good results in both cases.

Some authorities insist that it is better not to suture the torn ends of the urethra together, but I am sure there will be infinitely less danger of an organic stricture if the torn ends can be coapted and accurately sutured, rather than to let them be widely separated.

The urethra is usually lacerated by fragments of bone, or by a separation of the symphysis pubis.

One of the best diagnostic symptoms of injury of the urethra, as well as of pelvic fracture, is hemorrhage from the meatus.

Usually when you ask these patients if they can empty the bladder, they will say "yes, I can pass the urine, but it won't come out," and when they make an effort to empty the bladder it

causes a stinging pain in the perineum which is produced by the urine extravasating into the tissues, in close proximity to the wound.

It is always of the utmost importance to locate the seat of the injury, and to know whether or not there is extravasation of urine into the tissues, and its exact location, for we know what it means to leave urine extravasated through the tissues for any length of time. In a short time it begins to decompose, and a violent infection ensues, followed by high temperatures, septic poisoning and death, either of the tissues, patient or both.

Oftentimes extravasations are followed by extensive sloughs of the scrotum, perineum or abdominal muscles.

Sometimes the extravasated urine will aid us in determining the location of the lacerated urethra. When in front of the bulb, the extravasation will occur in the perineum and scrotum, but when the injury occurs posterior to the bulb, the extravasation will occur in the perineum, around the rectum, and often between the abdominal muscles and peritoneum. These symptoms, however, would not be a safe guide.

In all suspected cases of injury of the urethra with extravasation, the only safe thing to do, is to incise freely the perineum and abdomen over the bladder, as the incision will not kill your patient, while an extensive extravasation will.

I want to emphasize the great importance of opening the bladder supra-pubically in all these cases, for several reasons. First, it enables you to find the cut or torn ends of the urethra more certainly. Second, it tells you exactly where to make your perineal incision, and with the least wounding of the tissues. Third, it enables you to say certainly, whether or not the bladder has been torn or punctured, and if any urine has extravasated into the tissues, and where to institute drainage.

Fourth, it enables you to tell whether or not there is a rupture of the bladder, and if any urine has extravasated into the peritoneal cavity.

Fifth, after you have opened down to the bladder and stripped back the peritoneum, it enables you to replace the fractured ends of the bones, easier and surer than by any other method, without the danger of injuring any of the important structures.

Some authorities advise replacing the frac-

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FEBRUARY, 1918

Editorials

Go back to the simple life, be contented with simple food, simple pleasures, simple clothes. Work hard, pray hard, play hard. Work, eat, recreate and sleep. Do it all courageously.

We have a victory to win.

—HOOVER.

PATRIOTIC DINNER.

One of the big patriotic gatherings in Chicago this month will be the dinner given at Edge-water Beach hotel by the North Shore branch of the Chicago Medical Society. Dr. Frank R. Morton, secretary of the society, determined it should be a success, and apparently his expectations have been surpassed. There are already about five hundred acceptances, and it is expected it will tax the capacity of the hotel to accommodate those wishing to attend.

The dinner is to be given in honor of the members of that branch who are in the government service. This will be a most fitting memorial of the patriotism shown by these medical men. We congratulate Dr. Morton for both the motive and the success of the affair.

THE MILK PROBLEM.

The milk problem of Chicago has been undergoing the scrutiny of a committee, which was appointed to thoroughly investigate the question of milk production, distribution, cost and selling price. This investigation was brought about largely because of the increasing price of that commodity. Such investigations, if carried on by men competent to act in such capacity, men of keen business sagacity and honest, should be of value to the city and also to dairy interests. The value will depend solely on the ability and sincerity of the investigators, but the investigation must include the entire question of milk production.

The milk supply of a large city is a vital question, the importance of which cannot be measured in dollars and cents alone. It can be measured only when the lives of infants and invalids are taken into account; and it is of more interest and importance to the medical profession than that of any other food product.

We do not pretend to know just what the price of milk in Chicago should be. We do know that the price should be sufficient to insure the producer and distributor a fair profit for supplying to the trade a pure, fresh and clean product. If the price is not sufficient to insure a profit for such product, it is sure there will be no production. It is extremely desirable that the masses of the people be supplied with this staple food at a price as low as is consistent with the cost of a high class product; but while this is desirable, it is imperative that a supply of such milk be assured not only for the present but for the future.

The commission, no doubt, consisted of able men, but one cannot help but criticise some portions of evidence it permitted, and look with distrust on the fact that the middle man is allowed a bigger price for his work of distribution than the dairyman is allowed for production. It must go without argument that a visiting nurse, unacquainted with the price of production of dairy

products, is not competent to give evidence regarding the selling price of milk.

It is asinine to argue that the dairy farmer must value the feed produced and consumed on his own farm at its actual cost to him, instead of placing the same value on such feed that his neighbor has received in cash. Such argument would imply that the dairyman be paid by love of labor. There are many factors which have increased the cost of production of milk during the last decade. Land values have increased enormously in most of the dairy districts. The cost of labor has increased about one hundred per cent. The cost or price of milk cows has increased perhaps one hundred per cent; feed values have increased at least one hundred per cent. To these additional costs add the increased cost of feeding and housing dairy laborers, the increased cost of cans, pails, bottles, and the increased cost necessitated by greatly improved sanitary methods, tuberculin testing of cows, etc., and it is clearly evident that the price of milk must increase, or the production will stop.

We are not advocating fancy profits to the producers—far from it; but we want to insist that an adequate supply of high class milk for Chicago be assured. We do not want to see Chicago the dumping place for impure, dirty, cooked milk, which cannot be sold on other markets, or is so far below the present standard that it is dangerous to use. We do not want to see milkless days, nor do we want to see epidemics of infectious diseases arise because of unsanitary conditions on the farm.

In this connection it is significant to note that the present policy advocated by the Chicago Health Department is, that very little if any sanitary inspection of dairy farms be made in the future, such as has been the custom to make for years, but that the city rely entirely on the laboratory examinations made by the city laboratory. This allows a varying amount of manure and other filth in the milk, but pasteurizing will keep down the bacterial count. A farm might be exposed to almost any milk carried infection and not be discovered. Above all it does away with the education of the dairy farmer for production of a sanitary milk. The educating of a dairy farmer to conduct a sanitary dairy farm does add to the cost, but is by far the greatest factor in producing a pure, high grade, clean milk.

It is pertinent also in estimating the price of a food product to compare it with the value of other foods. A quart of milk is estimated to have about the same caloric value as a pound of lean meat. A pound of steak at retail price costs from twenty-eight to thirty-five cents.

This shows that while the price of milk has increased, it is still one of the cheapest protein foods available.

As a result of the report of the investigating committee, Chicago is threatened with a milk famine, and it is reported that efforts are being made to send in milk from long distances. It will be criminal to deprive Chicago children of their milk supply, or in any way menace the supply for coming years.

Perhaps the best argument the producer can put forth to prove that his price is not too high is the fact of decreasing herds in northern Illinois and southern Wisconsin. This is heard from all quarters of the dairying district adjacent to Chicago,—farmers are reducing their herds, or in some instances going out of the dairy business altogether. This simply proves that other lines of farming are now paying the farmer better than the selling of milk. It took a long time to build up the dairy interests near by Chicago, and to educate the farmers to produce a high standard product. Once these high grade herds are gone, it will take years to replace them and to again educate other farmers in the production of good milk. When diminished production is once established, it requires no seer to foretell that the price of milk will be perhaps prohibitive. Chicago had better, during these times of high prices, pay for milk such price as will profit the producer rather than destroy a business which has required years to build, and on which she is dependent.

REPORT OF MEDICO-LEGAL COMMITTEE, ILLINOIS STATE MEDICAL SOCIETY.

To the Editor: The Medico-Legal Committee deem it wise to make a report not only to the council, but also to the whole Society at the beginning of the calendar year. As a prelude will give a comparative statement of two previous years.

Jan. 1—1915 to 1916 new suits.....	31
May 1—1916 to 1917 new suits.....	40
Jan. 1—1917 to Jan., 1918, new suits.....	29

The decrease of new suits has all been in the last four months.

CASES PENDING

1917	1918
May 1	Jan. 1
3 Appellate court	None
1 Supreme court	None
15 Circuit court Cook County.....	17
24 Superior court Cook County.....	23
19 Other circuits in state.....	24
Other states	1
1 Municipal court, Chicago.....	1
—	—
63	66

Cases disposed of which were pending Jan. 1, 1917,

Appellate court, first district.

Two cases:

One reversed without remandment.

One reversed and remanded.

Appellate court, third district:

One reversed and remanded.

One affirmed on pleadings without review of merits by Supreme court.

Municipal Court of Chicago.

Case:

Tried verdict for defendant.

Superior Court of Cook County.

Case No. —

Dismissed for want of prosecution.

Case No. —

Dismissed for want of prosecution.

Case No. —

Defendant died—case continued.

Case No. —

Settled under direction of defendant.

Dismissed.

Case No. —

Suit dismissed—want of declaration.

Case No. —

Dismissed for want of prosecution.

Recommended.

Circuit Court of Cook County.

Case No. —

Dismissed for want of prosecution.

Case No. —

Dismissed for want of prosecution.

Case No. —

Tried—Judgment for defendant.

Case No. —

Forced to a dismissal.

Circuit Court, Champaign County.

Case No. —

Dismissed for want of prosecution.

Circuit Court, Fayette County.

Case No. —

Case taken over by Insuring Company.

Circuit Court of Knox County.

Case No. —

Dismissed for want of prosecution.

Circuit Court of Granite City.

Case defeated on demurrer.

Circuit Court, Peoria County.

Case dismissed for want of prosecution.
Recommended.

Circuit Court, Rock Island County.
Suit dismissed—want of declaration.

Twenty-one cases that were pending January 1, 1917, were disposed of during the year.

Three other cases stated during the year were also disposed of, making a total of 24 cases disposed of January 1, 1917, to January 1, 1918.

Number of suits filed January, 1917, to January, 1918: Twenty-nine.

Cook County, 14; other counties, 15.

Number of claims filed in which no suit has yet been brought: Sixty-two. How many of the above sixty-two cases will develop into a suit the committee has no means of knowing.

The committee considers that we have had a very successful year. Three of the cases in the appellate court were decided for the defendant. Of the twenty-one cases pending January 1, 1917, all were won for the defendant except one, which was settled. Of the three other cases disposed of (Municipal Court, Cook County) two were suits for fees and a defense of malpractice was set up, in both these cases the plaintiff lost the fees and the malpractice was quashed.

The one other case was an arrest of a Doctor for violation of the Dentistry Act—Defendant found not guilty.

One other case started since January 1, 1917, was tried and lost by defendant—a verdict of \$2,500, granted plaintiff—a new trial was granted in that case so it is still pending.

Respectfully submitted,
C. B. KING,
Chairman, Medico-Legal Committee.

ILLINOIS MEDICAL HISTORY

At the last meeting of the State Medical Society a committee was appointed to collect data for a History of Medicine in Illinois and especially of the Illinois State Medical Society. On account of several members of the committee being called into service in the Army and others being closely occupied on Draft Boards we have been slow in getting this work under way. The work has been divided into several parts:

1. The important facts about the profession and the Medical Societies, Hospitals, Colleges and other institutions of Medical interest which have existed in the County.
2. The History of the Illinois State Medical Society.

3. The History of the Medical Laws of Illinois.

4. The History of the Medical Schools of Illinois.

5. The History of the Medical Journals of Illinois including a Bibliography of the Medical Books and Journals which have been published in Illinois.

6. The History of the Specialists Societies of Illinois.

7. The History of the Medical Libraries of Illinois.

8. To make a collection of articles of historical interest such as saddle-bags, medicine chests, office furniture, saddles, carts, buggies, books, pictures and other paraphernalia.

We have the active co-operation of the Centennial Commission in this work and they will give us every aid within their power. A research man has been put to work in the John Crerar Library.

Through our official organ, the ILLINOIS MEDICAL JOURNAL, we appeal to every member to send to the committee at once, any facts which you have regarding the Illinois Medical History and especially your own local Medical History. We especially desire biographical sketches of the important doctors who have lived and practiced in your County and as far as possible would like pictures of them which can be used in a collection and which can be reproduced in the printed history.

The following questionnaire has been sent to the officers of each County Society, but we would be glad to have each member furnish information or co-operate with your County officers in making early return:

1. Name and location of the first Doctor in your County with some facts about him.

2. Name and locations of the first ten (10) Doctors in your County.

3. Name of the doctors in your County who know most about the Medical history.

4. Name and location of first Medical Institutions in your County with some facts regarding its organization and history.

5. Names and locations of all hospitals, Medical School and Medical Journals which have existed or do exist in your County.

9. Will you have your County newspapers call

three to co-operate with the committee of the State Society in securing data for the Medical History of the State? Give names and residences of the committee.

7. When was your County Society organized? Who were the first officers?

8. Will you furnish within two weeks a brief history of your County Medical Society to form a basis of further research?

9. Will you have your County newspaper call public attention to this matter by having them publish these questions and giving them such data as may be secured for publication?

10. Give the name of any one in your County who has made a study of local Medical history or has collected articles of historical interest?

This work to be a success must have the active support of every member. Although we are involved in war we should not fail to each one do his bit toward the success of the celebration of our State's One-hundredth birthday.

Finally we would remind you that the State Society is unable to bear the whole expense of this enterprise out of its treasury and in order to do this work in a creditable manner we are asking for subscriptions toward the work. The committee has arranged for "A special Subscription Edition," limited to those who subscribe ten (10) Dollars or more toward this work. A subscription blank will be found enclosed in this number of the JOURNAL which we will ask you to sign and forward to the Chairman of the Committee. Please bear in mind that this is exclusively the enterprise of your State Society including the several County units and the committee cannot make the work any more complete than your support and your subscriptions indicate that you want it. A list of the subscriptions will be published in the JOURNAL.

For the Committee,

CARL E. BLACK,

Chairman.

W. A. EVANS, GEO. N. KREIDER,

MORTIMER, FRANK, E. W. WEIS,

C. C. O'BRYNE, CARL E. BLACK,

W. O. ENSIGN, *Committee.*

EYE, EAR, NOSE AND THROAT SECTION,
ILLINOIS STATE MEDICAL SOCIETY.

Meeting at Springfield, May 21, 22 and 23, 1918.

*To the Members of the Eye, Ear, Nose and Throat
Section of the Illinois State Medical Society:*

With the opening of the new year of 1918 the officers of the section on eye, ear, nose and throat of the Illinois State Medical Society have thought it opportune to make their preliminary statement relative to the meeting to be held in Springfield, May 21, 22 and 23, 1918. The place of the meeting is so centrally located and the splendid efforts of the local committee are planning for our entertainment, augur well for a large attendance and most enjoyable visit.

Tuesday, May 21, the entire day (from 10 a. m. until 5 p. m.) will be devoted to the clinic and demonstrations. These clinics and demonstrations have heretofore been a most attractive and instructive part of our section work. The local committee assure us that the Springfield meeting will in this respect surpass all former efforts. That evening the annual banquet of the Section will take place at 6:30 p. m. This is always a feature worth the effort of an attendance. Some novel things are promised for this occasion. Preliminary to the banquet a general reception will be held, where we may fraternize and spend a delightful half hour. *Wednesday, May 22*, beginning at 9:00 a. m., the day will be devoted entirely to the program proper. This program of papers and discussions will be so arranged that the work of the Section will be closed at 5 p. m.

THE PROGRAM.

We want to provide a list of papers that will be attractive in every way and also assist in the success of the clinic and demonstrations. To this end we invite members of the Section to send in their requests for places on the program. Also aid by securing clinical material either for operation or demonstration. As the program is necessarily limited as to the number that can be placed, we urge a prompt response by those wishing to take part. Send all communications either to the chairman or the secretary of the Section.

Fraternally yours,

J. SHELDON CLARK, Chairman,
76 Stephenson St.,
Freeport, Illinois.

WESLEY H. PECK, Secretary,
Suite 1102, Columbus Memorial Bldg.,
31 North State St. Chicago, Ill.

"THREE THOUSAND MILES AWAY"

Dedicated to our Boys in Khaki

By

ARTHUR M. CORWIN, M. D.

CHICAGO

Some fellow said the other-day

This war's three thousand miles away,
There seems for us no special need
To manufacture fighting speed
For war, three thousand miles away.

The French have kept the Hun at bay,

The British licked him at Ypres,*
Canadian blood is shed for us,
Why mix our people in this muss
Of war, three thousand miles away?

Australian men were quick to see

The menace to democracy
They struggled at Gallipoli
They joined the fight to keep us free
By war, three thousand miles away.

This wholesale murder was begun

In Potsdam by the bloody Hun,
The rape of Belgium was his deed,
The burglary of France, decreed
Through War, three thousand miles away.

Official treachery and lies

The Prussian promises disguise,
The whole world round is sick, indeed
Infected by the Kaiser's creed
Of war, three thousand miles away.

Up! then to arms across the sea

For freedom knows no boundary
Of race or Country, line or shore;
At Marne, the Hun was at our door,
Our homes, security, must win
In final battle at Berlin,
For hope, for love, for life we pay
With blood, three thousand miles away.

Jan. 26, 1918.

*Apologies to the French dictionary.

COMPULSORY HEALTH INSURANCE TURNED DOWN IN MASSACHUSETTS.

SPECIAL RECESS COMMISSION FAILS TO UPHOLD
GOV. M'CALL'S RECOMMENDATIONS—ADVOCATE
EXTENSION OF SICKNESS
PREVENTION MEASURES

The Special Recess Commission on Social Insurance appointed by last year's Legislature to consider Governor McCall's recommendations for compulsory health insurance reported January 15, 1918, with a majority opposed to the establishment of a state system of compulsory health insurance, declaring such a system has few supporters, is opposed by laborers and employers alike and is distinctly class legislation. The commission feels that greater thought should be given by the state to sickness prevention measures.

The majority report is signed by nine of the eleven members.

Two members of the Commission present a minority report in favor of non-contributory health insurance.

Another minority report, signed by three members, recommends the extension of medical care for school children.

MAJORITY FINDINGS

The majority report states:

After serious consideration of the evidence submitted at the various hearings and of the several studies undertaken in its behalf the majority has reached its conclusion and does not feel justified in recommending a bill to establish a system of state health insurance within the Commonwealth.

The so-called compulsory contributory system of health insurance has few supporters. There appears to be two serious obstacles to the enactment of legislation of this character, namely, the united opposition of employer and employee to the plan and the difficulties presented by the constitutional aspects of the question.

We cannot disregard the objection put forward by labor bodies and others that compulsory contributory health insurance is class legislation—inasmuch as it taxes one class of citizens, the inherently wealthy, for the benefit of the smaller but less fortunate group on which the burden of illness falls.

We believe that health insurance would not in any degree lessen poverty or so much of it at least as is due to sickness. Those persons in the Commonwealth whom the Standard bill is designed to help are already in a position to avail themselves of medical service and indemnify themselves through volun-

tary insurance, if they so desire, against loss caused by sickness.

The great contributory causes of poverty in the Commonwealth we find to be tuberculosis, insanity, feeble-mindedness, intemperance, insufficient wages, lack of education and shiftlessness. In view of the failure of the sanitarium benefits under the Health Insurance act in Great Britain it is difficult for us to feel that any system of health insurance would tend to alleviate or greatly improve the conditions caused by these first named diseases. Most of the health insurance systems of the compulsory type now in vogue make no provisions for chronic ailments, such as tuberculosis, insanity, cancer, or diseases extending over a period of twenty-six weeks in any given year. In the event of the wage earners succumbing to any of these diseases it is conceivable that a measure of this kind might improve the condition of the members of the families affected to a degree but an act for this purpose alone is gratuitous.

PREVENTION, NOT INDEMNIFICATION THE SOLUTION

In brief, the real solution of the health question, it seems, is not indemnification for wage loss during illness, but prevention of illness. To cope intelligently with the sickness problem, therefore, our energies should be directed to making possible the extension and greater efficacy of our preventive work.

It is our opinion that an ultimate solution of the sickness indemnity question may be partially reached at least through the growth and development of voluntary industrial mutual benefit associations now in operation.

Suggestion is made by the majority in its report that if the clinics and dispensaries are extended, or its service, some provision should be made for State supervision. It recommends that the State Department of Health shall be given authority to license all dispensaries and prescribe general regulations for their management. "Such a law," the report states, "would prevent the development of commercial, exploitative institutions, some of which now exist, and would enable a constructive development of medical service to proceed in an orderly way without, however, hampering local initiative.

The majority report is signed by Senator Herbert A. Wilson of Boston, chairman; Senator Charles D. Brown of Gloucester, Representative Fred P. Greenwood of Everett, Charles B. Frothingham of Lynn, Benjamin G. Collins of Edgartown, Carl C. Emery of Newburyport, Ernest A. Lorocque of Fall River, Robert M. Washburn of Worcester and Everett Morse of Boston.

Senator Edward A. McLaughlin and Representative Vincent Brogna of Boston signed the minority report.

MILITARY EXAMINATIONS.

For the benefit of our members who will be in the service for examination of the selected men, we reproduce the following selective service regulations:

SELECTIVE SERVICE REGULATIONS

PRESCRIBED BY THE PRESIDENT UNDER THE AUTHORITY VESTED IN HIM BY THE TERMS OF THE SELECTIVE SERVICE LAW.

ACT OF CONGRESS APPROVED MAY 18, 1917

PHYSICAL EXAMINATION

Section 182. Preliminary statement.

The examining physician will first take the statement of the person to be examined (p. 1, Form 1010 P. M. G. O.). He will then proceed with the physical examination.

Section 183. Place, order, and method of examinations.

The physical examination should take place in a large, well-lighted room. The person examined is to be stripped. The examining physician should remember that a certain proportion of men will endeavor to obtain exemption by dissimulation, varying from exaggeration of an existing condition not disqualifying to downright malingering, and he should be on his guard to protect the Government and himself against such attempts at deception. The physical examination should be made in substantially the following order:

(a) *General condition; weight, height, and measurements.*—Observe the general condition of the skin, scalp, and cranium, ears, eyes, nose, mouth, face, neck, and chest. Take weight, height, and chest measurements; all chest measurements to be taken on a level just above the nipple, with the tape horizontal. Accepted measurements are as follows:

A.

STANDARD ACCEPTED MEASUREMENTS.

Height Inches	Weight Pounds	Chest Measurement	
		At Expiration Inches	Mobility Inches
61	118	31	2
62	120	31	2
63	124	31	2
64	128	32	2
65	130	32	2
66	132	32½	2
67	134	33	2
68	141	33¼	2½
69	148	33½	2½
70	155	34	2½
71	162	34¼	2½
72	169	34¾	3
73	176	35¼	3
74	183	36¼	3
75	190	36¾	3¼
76	197	37¼	3½
77	204	37½	3¾
78	211	38¼	4

B

The following variations from the standard shown in Table A are permissible when the applicant is active, has firm muscles, and is evidently vigorous and healthy.

Height Inches	Weight Pounds	Chest Measurement	
		At Expiration Inches	Mobility Inches
61	110	30	2
62	110	30	2
63	112	30	2
64	113	30	2
65	114	30	2
66	116	30¼	2
67	118	30½	2
68	121	30¾	2
69	124	31	2
70	128	31¼	2
71	133	31¾	2
72	138	32¼	2½
73	143	32¾	2½
74	148	33½	2½
75	155	34¼	2¾
76	161	34¾	2¾
77	168	35¼	3
78	175	35¾	3

There should be no departure from the prescribed standards of height. Men of 64 inches in height and over may be accepted when below the minimum weights specified above, provided the underweight is due to temporary causes and can, in the opinion of the medical examiner, be reasonably explained. To be acceptable, men below 64 inches in height must be of good physique, well developed, and muscular. Unless exceptionally well proportioned, men above 78 inches in height should be rejected.

Variations in weight above the standard are not disqualifying, unless sufficient to constitute such well-marked obesity as to interfere permanently with normal physical activity.

(b) *Rupture.*—The arms being extended above the head, backs of hands together, the applicant is required to cough vigorously; any form of rupture may now be discovered by the hand and eye, but still better by the index finger passed up to the external ring.

(c) *Genitals.*—The arms remaining extended above the head, the applicant is required to take a long step forward with the right foot and bend the right knee; the genital organs are now conveniently exposed and varicocele and other defects in the scrotum may be recognized.

(d) *Anus.*—The man is required to separate the buttocks with his hands, at the same time bending forward; this exposes the anus to examination.

(e) *Chest, heart, and lungs.*—The chest should be carefully examined by inspection, palpation, percussion, and auscultation.

The examination of the *heart and blood vessels* should in all cases include:

(1) Location and determination of character of apex impulse.

(2) Auscultation of the heart sounds over apex,

lower sternum, and second and third interspaces to right and left of sternum, noting accentuation of sounds and murmurs.

(3) Inspection of root of neck and upper thorax and percussion of first interspace on each side of manubrium for evidence of aneurism.

(4) Count of radial pulse, observation of its rhythm, and palpation of radial arteries for unusual thickening or high tension.

(5) Immediately after the exercise prescribed in paragraph (g) auscultation should be repeated with particular reference to the detection of murmurs previously inaudible. Note should be made of the degree of breathlessness and increase in rate produced by exercise.

(6) Symptoms of circulatory failure such as cyanosis, breathlessness, and edema should be looked for and noted if present.

The examination of the *lungs* should in all instances include the following procedures:

Each registrant should be required to exhale his breath, cough, and immediately breathe in. The chest should be auscultated during this process. All men who show moist sounds during cough or during respiration should be classed as doubtful cases. All cases should be also classed as doubtful in which there is well-marked dullness on percussion, increased transmission of voice, harsh respiration, and prolonged expiration, even though there be no rales present. Men under weight or with sunken or deformed chests should be considered with special care, and if the conditions are marked should be classed as doubtful, even though definite signs of tuberculosis are not detected.

(f) *Upper Extremities*.—Make sure that all joints are free and supple from the phalanges to the shoulder. Note tremor of hands, if present.

(g) *Lower extremities*.—The person under examination is required to leap directly up, striking the buttocks with the heels; to hop the length of the room on the ball of first one foot and then the other; to make a standing jump as far as possible, and repeat it several times; to run the length of the room several times; heart is now re-examined.

(h) *Mental*.—The mental examination should be such as to develop whether or not the man examined is possessed of sound understanding. Obtain history of mental disorders, epilepsy, or serious chronic disease of the nervous system, if present.

(i) *Vision*.—To determine the acuity of vision, place the person under examination with back to window at a distance of 20 feet from the test types. *Examine each eye separately, without glasses, covering the other eye with a card (not with the hand).* The applicant is directed to read the test types from the top of the chart down as far as he can see, and his acuity of vision recorded for each eye, with the distance of 20 feet as the numerator of a fraction and the size of the type of the lowest line he can read correctly as the denominator. If he reads the 20-foot type correctly, his vision is normal and recorded 20/20; if he does not read below the 300-foot

type, the vision is imperfect and recorded 20/30; if he reads the 15-foot type, the vision is unusually acute and recorded 20/15, etc.

Men may be accepted whose vision is 20/100 or better in each eye, correctable by appropriate lenses to 20/40 or better in at least one eye, provided no organic disease exists in either eye.

Examine condition of pupils their size, shape, and motor reaction to light and to accommodation. Abnormalities should be considered with reference to disease of the nervous system as well as of the eye.

(j) *Hearing*.—To determine the acuity of hearing place the applicant facing away from the assistant, who is 20 feet distant, and direct him to repeat promptly the words spoken by the assistant. If he cannot hear the words at 20 feet the assistant should approach foot by foot, using the same voice, until the words are repeated correctly. Examine each ear separately, closing the other ear by pressing the tragus firmly against the meatus. The examiner, whose hearing should be normal, faces in the same direction as the candidate and closes one of his own ears in the same way as a control. The assistant should use a low conversational voice (not a whisper), just plainly audible to the examiner, and should use numerals, names of places, or other words or sentences until the condition of the applicant's hearing is evident. The acuity of hearing is expressed in a fraction the numerator of which is the distance in feet at which the words are heard by the candidate and the denominator the distance in feet at which the words are heard by the normal ear; thus 20/20 records normal hearing, 10/20 imperfect hearing, etc. If any doubt should exist as to the correctness of the answers given, the candidate should be blindfolded and a watch should be used, care being taken that the individual does not know the distance from the ear at which it is being held; the watch used should be one whose ticking strength has been tested by trial on a normal ear. The hearing with both ears open should not be below 10/20.

Section 184. Causes for rejection.

The following defects are causes for rejection:

(a) *Mental and nervous*.—Lack of normal understanding; insanity; epilepsy; tabes; chorea organic nervous diseases.

(b) *Skin*.—Chronic, contagious, and parasitic diseases, when severe and extensive; chronic ulcers, deep or extensive.

(c) *Head*.—Abrupt depression in skull, the consequence of old fracture.

(d) *Spine*.—Caries and abscess. Curvature (postural kyphosis and scoliosis) is cause for rejection only when it is sufficient to interfere with function, or to constitute marked deformity when in uniform.

(e) *Ears*.—Any chronic discharge from the middle ear. Perforation of the tympanic membrane in a dry ear is not disqualifying, provided hearing is 10/20 or better.

(f) *Eyes*.—Acuity of vision below the requirements of Section 183, (i); serious chronic conjunctival affections, including trachoma; entropion; per-

manent and well-marked strabismus; serious diseases of the lachrymal apparatus; exophthalmos; nystagmus.

(g) *Mouth, nose, and fauces.*—Deformities interfering with mastication or speech; chronic ulcerations; fissures or perforations of the hard palate; loss of voice or manifest alteration of it; chronic obstruction of both nostrils, or foul discharges. Nasal polypi are not a bar to acceptance for military service. Hypertrophied tonsils are not disqualifying; but if the hypertrophy is sufficiently marked to interfere with respiration or phonation, the registrant shall be advised to have the large tonsils removed immediately, pending receipt of orders to report for duty.

(h) *Neck.*—Exophthalmic goiter; pronounced simple goiter, when sufficient to interfere with the wearing of the military collar; ulcerations or great enlargement of the cervical glands.

(i) *Lungs.*—Disease of lungs. A history of pulmonary tuberculosis should be taken into consideration in connection with the physical examination of the lungs, but undue weight should not be given to statements not supported by physical signs.

(j) *Heart.*—In examining the heart care must be taken not to ascribe to disease the hurried, sharply accentuated action sometimes due to nervousness, fright, or embarrassment, or the irregular action caused by the excessive use of tobacco. Ordinarily no murmur should be declared organic unless secondary physical signs, such as cardiac enlargement, edema, cyanosis, etc., can be demonstrated.

Causes for disqualification are: Marked enlargement of the heart; definite organic valvular disease as indicated by secondary signs or symptoms in addition to murmurs; aneurism in every situation; complete irregularity, but not dropped or premature beats; marked high blood pressure, over 200 mm. systolic or 120 mm. diastolic. Definite symptoms of circulatory failure, such as breathlessness, marked cyanosis, or edema.

(k) *Abdomen.*—Chronic inflammations of the gastro-intestinal tract, including chronic diarrhea and dysentery and other serious diseases of the abdominal organs. Great care should be exercised before exempting for these conditions. A history of appendicitis without present symptoms is not a cause of rejection. Hernia in any location disqualifies.

(l) *Anus.*—Hemorrhoids of a pronounced type, prolapsus, fistula, fissures if of a disabling character.

(m) *Genito-urinary organs.*—Tight urethral stricture; undescended testicle if located in the inguinal canal; marked hydrocele. Chronic disease of the bladder and kidneys, if confirmed by laboratory tests. Varicocele does not constitute a cause for rejection unless it is so large as to interfere with locomotion.

Syphilis is a cause for rejection only when permanently incapacitating. Syphilis in the primary and secondary stages, that is, during the infectious period, chancroid, and gonorrhoea, acute and chronic, are not disqualifying, but individuals so affected should be advised immediately to secure appropriate medical

treatment pending receipt of orders to report for duty.

The fact that registrants have been found to be afflicted with the above-mentioned venereal diseases should be noted on the papers that are sent with them when they report for duty.

(n) *Affections common to both extremities.*—Chronic rheumatism and disabling diseases of the joints; irreducible dislocation or false joints; old dislocations if attended with marked impairment of motion or distortion of the joint; chronic synovitis; caries; necrosis; atrophy or paralysis; badly united fractures; extensive or adherent scars and permanent contraction of muscles, when sufficient to cause marked disability

(o) *Hands.*—Webbed fingers of right hand if disabling; permanent flexion, extension, or loss of motion of one of more fingers; loss or serious mutilation of either thumb; total loss of index finger of the right hand; total loss of any two fingers of the same hand, or loss of the second and third phalanges of all the fingers of either hand.

(p) *Lower extremities* — Pronounced varicose veins, especially when attended with edema or marks of ulceration; pronounced knock-knees; clubfeet; well-marked flat feet, especially if attended with subjective symptoms; large and painful bunions; overriding or marked displacement or deformity of any of the toes. Hammer-toe is cause for rejection if it is well marked and interferes with the wearing of ordinary shoes.

The shin bone, if rough, nodulated, and tender, suggests syphilis.

A broad, flat sole is common in laboring classes, particularly among negroes, and is in no way disabling. In the flat foot which renders a man unfit for service the arch is so far gone that the entire border rests upon the ground, with the inner ankle lowered and very prominent and the foot apparently pushed outward.

Section 185. Dental requirements.

Teh person must have at least eight *serviceable natural* masticating teeth, either bicuspid or molars, four above and four below opposing, and six *serviceable natural* incisors or canines, three above and three below opposing. These teeth must be so opposed as to serve the purposes of incision and mastication. There must be one molar above and one below on one side which occlude; the remaining six opposing masticating teeth may be either bicuspid or molars.

Teeth restored by crown or fixed bridge work, when such work is well placed and thoroughly serviceable, are to be considered as *serviceable natural* teeth within the meaning of the above paragraph.

A well-fitting artificial denture, plate, or removable bridge is allowed to take the place of missing teeth, providing the *serviceable natural* teeth one one side of the mouth are sufficient to meet one-half the masticating (bicuspid or molar) requirements fixed above as the minimum.

If dental work will restore the teeth so as to meet the requirements outlined in the preceding para-

graphs, the man should be accepted and sent to his cantonment, where the dental work needed to bring him within the requirements will be carried out.

cation.

Section 186. Degree of deficiency for disqualifi-

Any of the physical deficiencies mentioned above must be present in such degree as clearly and unmistakably to disqualify the man for military service before he can be found to be physically deficient and not physically qualified for military service.

Examining physicians of local boards should consider the regulations as a guide to their discretion rather than a set of arbitrary rules destroying their discretion. The object is to procure men who are physically fit for the rigors of field service, and the determination of this question is left to the guided and learned discretion of medical men and not wholly to a chart of arbitrary rules.

Where serious doubt exists as to the fitness of the registrant, the case should be referred to the Medical Advisory Board for consultation.

Section 187. Temporary defects.

Temporary effects of acute disease or of an injury are not to be regarded as justifying a finding that the person so affected is physically deficient and not physically qualified for military service, but such conditions justify a reasonable delay in completing the physical examination in order that an opportunity for recovery may be afforded.

Section 188. Special report in case of men physically disqualified for general military service, but able to do special or limited military service.

In each case in which the registrant is found to be physically disqualified for general military service, the examining physician will ascertain the nature of the trades, professions, or other civil occupations of the registrant, and will report to the Local Board, in the proper place on form for physical examination, whether in his judgment the registrant is physically capable of rendering special or limited military service in any such trade, profession, or occupation, or in a similar capacity. This information is desired in order that, if the exigencies of the war so require, the War Department may call upon such men for service other than active military service in the field. In deciding upon the registrant's qualifications for such service, the examining physician shall consider that the service here contemplated is not active military duty on the firing line, or any other class of duty necessitating greater physical development or endurance or more perfect vision or hearing than is necessary in the same class of work in civil life. (See sections 122-124, Part V.)

NAVY'S CALL FOR BINOCULARS, SPY-GLASSES AND TELESCOPES—"THE EYES OF THE NAVY."

Dear Sir: The Navy is still in urgent need of binoculars, spy-glasses and telescopes. The use of the submarine has so changed naval warfare that more "eyes" are needed on every ship, in order that

a constant and efficient lookout may be maintained. Sextants and chronometers are also urgently required.

Heretofore, the United States has been obliged to rely almost entirely upon foreign countries for its supply of such articles. These channels of supply are now closed, and as no stock is on hand in this country to meet the present emergency, it has become necessary to appeal to the patriotism of private owners to furnish "eyes for the navy."

Several weeks ago, an appeal was made through the daily press, resulting in the receipt of over 3,000 glasses of various kinds, the great majority of which has proven satisfactory for naval use. *This number, however, is wholly insufficient, and the navy needs many thousands more.*

May I, therefore, ask your co-operation with the navy, to impress upon your subscribers, either editorially, pictorially or in display, by announcing in addition to the above general statement, the following salient features in connection with the navy's call:

"All articles should be securely tagged giving name and address to the donor, and forwarded by mail or express to the Honorable Franklin D. Roosevelt, Assistant Secretary of the Navy, care of Naval Observatory, Washington, D. C., so that they may be acknowledged by him.

"Articles not suitable for naval use will be returned to the sender. Those accepted will be keyed, so that the name and address of the donor will be permanently recorded at the Navy Department, and every effort will be made to return them, with added historic interest, at the termination of the war. It is, of course impossible to guarantee them against damage or loss.

"As the government cannot, under the law, accept services or material without making some payment therefor, one dollar will be paid for each article accepted, which sum will constitute the rental price, or in the event of loss, the purchase price, of such article."

Toward the end of January, it is proposed to distribute throughout the country, posters making an appeal to fill this want of the navy.

As this is a matter which depends entirely for its success upon publicity, I very much hope that you will feel inclined to help the navy at this time by assisting in any way that lies within your power.

Very sincerely yours,

FRANKLIN D. ROOSEVELT,

Assistant Secretary of the Navy.

Public Health

SECOND CLINICAL CONFERENCE ON TUBERCULOSIS A MARKED SUCCESS.

The second clinical conference on the early diagnosis of tuberculosis held at Springfield, January 24, 25 and 26, under the auspices of the State Council of Defense, the State Department of Public Health and the Illinois Tuberculosis Association, proved to be one of the most interesting and important meetings

of the kind ever held in the middle west. From the morning of the first day, throughout the very last session physicians affiliated with the Cooperating Committee on the Tuberculosis War Problem of Illinois from over forty counties, manifested an unusual interest in the meetings.

The large attendance was probably due to a large extent to the growing appreciation of the importance of tuberculosis as a war problem and to the fact that almost 600 young men have already been returned to Illinois from the various cantonments on account of active tuberculosis; but the sustained interest in the sessions was attributable to the excellently arranged program and to the large number of well-known clinical teachers who carried it out.

The sessions opened with a summary of the essentials in the early diagnosis of tuberculosis by Dr. Frank Billings, of Chicago, who also spoke at the open meetings of the session, first on his observations in Russia and again on the modern warfare against tuberculosis. Especial interest was manifested in the discussion and clinical demonstration of artificial pneumothorax by Dr. Ethan Allen Gray, of Chicago; a clinical discussion of inspection and palpation in early diagnosis by Dr. O. W. McMichael and a demonstration of the uses and limitations of the x-ray in diagnosis by Dr. Adolph Hartung.

The sessions were almost altogether clinical in character, utilizing the patients of the dispensary of the Springfield Tuberculosis Association, and clinical instruction was given to groups of physicians by Drs. Stephen R. Pertovitz, of Chicago; Dr. John H. Peck, of Des Moines; Dr. Wilson Ruffin Abbott, of Chicago, and Dr. George Thomas Palmer, of Springfield.

These clinical conferences are a part of the Illinois program to meet the tuberculosis war problem and the second conference was devoted largely to arrangements for the care of returned tuberculous soldiers in their home communities. On account of the fact that most of the several hundred soldiers who have already been returned to the various counties of Illinois on account of tuberculosis have not been in service as long as three months, most of them have been discharged for illness contracted "not in line of duty" and, on this account, no provision has been made for their care either by the army nor by the American Red Cross. The co-operating committee on the tuberculosis war problem of Illinois, of which Dr. George Thomas Palmer is chairman, and which has a local committee in every county, is urging that county boards of supervisors or commissioners make financial provision for the sanatorium care of these young men until some other arrangement is made for them. It is also urged that tuberculosis dispensaries be established in every county and that visiting tuberculosis nurses be employed to follow up these tuberculous soldiers in case they are not assigned to sanatoria or after their discharge from such institutions. The county boards of over twenty counties have already made provision for sanatorium care for soldiers and many of them have also made appropriations for dispensaries and nursing service.

It was reported at this conference that a new dispensary has been established at Decatur through Macon county appropriations under the direction of Dr. Cecil Jack and that a similar institution has been created at Bloomington under the direction of Dr. Bernice Curry. Danville will open a municipal tuberculosis dispensary within the next ten days.

As a result of this co-ordinated work of the Council of Defense, the State Department of Public Health and the Illinois Tuberculosis Association, it is stated that more public funds have been appropriated for tuberculosis work in the state outside Chicago during the past year than in any five years in the past.

SURVEY OF THE CAMP GRANT SANITARY ZONE COMPLETED.

The sanitary survey of the several hundred square miles about the city of Rockford and including that city, which constitutes the Camp Grant Sanitary Zone of the State Department of Health, has just been completed by a staff delegated by the health department and representatives of other State Departments delegated for this service. The survey included an intensive investigation of every condition which may affect the health of the soldiers in the cantonment including water supply, sewage disposal, garbage disposal, communicable diseases, tuberculosis, hospital facilities, venereal disease, etc., the major work being done by the Divisions of Sanitary Engineering, of Communicable Diseases and of Surveys and Rural Hygiene. Co-operative service was rendered by the State Department of Public Welfare and by the officers of the State Fire Marshall and State Factory Inspectors.

The data collected are now being compiled and prepared for practical use.

DR. DRAKE TOURS MISSISSIPPI VALLEY ON FEDERAL SERVICE.

Dr. C. St. Clair Drake, Director of the State Department of Public Health, has just returned from a tour of twelve Mississippi Valley states made at the instance of the United States Government. His itinerary included the states of Iowa, Missouri, Arkansas, Louisiana, Tennessee, Mississippi and Kentucky.

AN INTERESTING OBSTACLE TO DEATH REGISTRATION.

Inspectors from the Division of Vital Statistics of the State Department of Public Health were recently assigned to one of the smaller and more remote counties of southern Illinois which aroused suspicion by a showing of an unusually low rate of mortality. Careful investigation elicited the fact that the death rate of the county was higher than the average for that section of the state, the failure to report deaths being due to the fact that there are few if any undertakers or embalmers in the county, coffins being carried as part of the stock of the neighborhood general stores. For generations past, in case of death,

a member of the family of the deceased or one of the neighbors, has been accustomed to go to the cross-roads store to buy a coffin just as he would a rocking chair, and then the neighbors have gathered together and buried the remains in a private or rural public cemetery. Steps have been taken to place a check on this practice which savors of the pioneer days of Illinois.

STATE BACTERIOLOGIST CALLED TO COLORS.

Dr. George F. Sorgatz, of Springfield, chief of the Division of Diagnostic Laboratories of the State Department of Health, has left Illinois to report for military service at Fort McPherson, Georgia, where he is assigned to the Springfield hospital unit organized by Dr. D. M. Ottis. This is the third representative of the State Health Department called to military service. Paul Hansen, chief of the Division of Sanitary Engineering, has been in France for many months as a captain of engineers.

HEALTH DEPARTMENT COMPLETES RECORDS OF REGISTRATION OF PHYSICIANS.

The December number of *Health News*, the official publication of the State Department of Public Health, contains the final lists of physicians licensed to practice in Illinois by the State Board of Health. With the publication of this list, the state health organization as a licensing and registering body is terminated, all examination and licensure passing to the Department of Registration and Education which came into existence July 1, 1917, with the adoption of the Civil Administrative Code.

FRACTURES OF THE PELVIS.

(Continued from page 109)

tured bones by introducing the finger into the rectum, but it should never be attempted for fear of cutting a hole in the bowel with the fractured ends of the bones.

Unless there is the best of reason, such as great deformity that will interfere with the gait in walking, or eversion of the foot, no reduction of the bones should be attempted.

Too much stress cannot be laid on thorough drainage of the perineum, and opening the bladder supra-pubically. I have had three cases in the past two years, all of which would have been lost, if I had depended on perineal drainage alone, as they all had ruptures of the bladder, and there was extravasated into the abdominal muscles and peritoneal cavity from two to four quarts of urine.

The cases were all treated by opening the abdomen, removing the urine, flushing out the

cavities with a large quantity of normal salt solution, putting a cigarette drain down into the culdesac and placing the patient in the Fowler position for a day or two until the danger of sepsis was past.

All three cases made prompt recoveries.

The presence of extravasated urine in the perineum will usually be indicated by a purplish hue of the perineum, pain on pressure, and sometimes fluctuation.

Rupture of the bladder will be attended by pain in the hypogastric regions and a frequent desire to pass the urine.

In all wounds of the urethra, if possible, the torn ends should be coapted and sutured.

The ideal method in these cases, after the torn ends have been coapted and sutured, is to pass a soft rubber retention catheter into the urethra, one or two inches beyond the wound, but not into the bladder, and retain it there for four or five days until union has taken place in the urethra, and the perineal wound has practically healed, then the catheter can be passed entirely into the bladder and the supra-pubic drain removed.

When a retention catheter is placed entirely in the bladder immediately after the torn ends have been sutured, there will in the majority of instances, be some urine pass down around the catheter, and oftentimes will delay your union, by breaking through the perineal wound and separating the torn ends, produce a stricture, and necessitate a subsequent operation for stricture.

Some surgeons claim to have equally as good results with a fixation catheter in the bladder from the beginning. If that be true, it is simply a matter of choice on the part of the surgeon.

In conclusion allow me to say, that the surgeon should never in these cases overlook his pathology, and in practically every instance, the most important part of his pathology, is the extravasated urine.

Society Proceedings

ALEXANDER COUNTY

A meeting of the Alexander County Medical Society was held Thursday evening, December 20, 1917, in the Mutt and Jeff room of the Halliday hotel, at Cairo. Officers elected for 1918 were as follows:

Dr. Flint Bondurant, president; Dr. R. E. Barrows, vice-president; Dr. James M. McManus, secretary and

treasurer. Dr. C. M. Dickerson of Miller City, was re-elected member of the board of censors.

Two new members were taken into the society, Dr. W. A. Lottman, of Olive Branch, and Dr. J. A. M. Gibbs, of Unity. There are now twenty-nine eligible physicians in the County, of whom twenty-four are now members of the County society. Fourteen are members of the A. M. A. The society voted to increase the annual dues to five dollars. It was also decided that the dues of members now in military service be paid out of the treasury, and that these members be kept in good standing in the County and State societies during their absence. Dr. Charles Weber of Cairo, and Dr. C. E. Duncan of McClure, are now in military service.

Following the business session, a delicious luncheon was served. Dr. J. W. Dunn, retiring president, presided as toastmaster and opened the program with an address. Dr. Flint Bondurant, president-elect, followed with a speech. Dr. W. F. Grinstead spoke on "The Doctor's Relation to the Selective Service Law." Dr. Samuel B. Cary followed with "Stories of a Country Doctor," truthful tales of his early days in the profession, which were very interesting and humorous. Several stories were told by different members until the evening was well advanced, and after listening to patriotic airs and songs the meeting adjourned.

R. E. BARROWS,
Secretary.

COOK COUNTY

Chicago Medical Society

Regular Meeting, January 9, 1918

1. Presentation of Four Severe Head Injury Cases, David C. Straus. General discussion.
2. Cystoscopic Method of Removal of Urethral Stones, Victor D. Lespinasse. Discussion, L. E. Schmidt, Herman Kretschmer, B. C. Corbus, Robert Herbst, and Charles M. McKenna.

Joint Meeting of the Chicago Pediatric Society and the Chicago Medical Society, January 16, 1918

1. Treatment of Scarlet Fever with Convalescent Serum, George Weaver.
2. Complications in Acute Infectious Diseases as Seen in Cook County Hospital, Maurice L. Blatt. Discussion, Archibald L. Hoyne.
3. The Value of Early and Efficient Doses of Antitoxin in Diphtheria, Edward K. Armstrong. Discussion, A. Levinson and Frank D. Francis.

Regular Meeting, January 30, 1918

1. A Further Study of the Etiology, Pathology and Treatment of Metastatic Joint Infections, Philip Kreuzer. Discussion—Victor D. Lespinasse, J. A. Wolfer, George Jordan.
2. A Review of Haemolytic Jaundice with Report of Cases, W. O. Bridges, Omaha, Neb. Discussion—Chas. A. Elliott, Nelson Percy, Julius Hess.

CHICAGO OPHTHALMOLOGICAL SOCIETY
MEETING OF NOV. 19, 1917—Continued.

OCULAR MANIFESTATIONS OF REFLEX ORIGIN.

Dr. B. F. Andrews said that ophthalmologists are familiar with the many intra- and extra-ocular phenomena arising from purulent processes in the nose and its accessory sinuses. The literature bearing upon this phase of ocular disturbances is quite profuse.

He called attention to another group of ocular disturbances, due to extraorbital conditions, non-purulent in character, regarding which the literature is more scant.

He referred to that rather numerous class of cases which well nigh exhausts the patience, and baffles the skill of the ophthalmologist, to properly correct with glasses that can be worn with satisfaction for any considerable length of time. These patients came to the ophthalmologist after having passed through the hands of refractionists of repute; had been examined under mydriasis and without; had been refracted with cycloplegics and without. They also bring as proof, an assortment of glasses that had been prescribed, each worn with comfort for a time, only in turn to be rejected.

Another group of cases, coming under the same general class is composed of those who, for some defect or other, wear glasses which are comfortable until some operation or other disturbance involving the distribution of some branch of the trigeminous nerve has supervened. After such an operation, some of these cases discard their glasses altogether, while others are compelled to seek relief in new lenses for the correction of error, differing in kind or degree, from that which existed before.

The cases cited above are of such numerical importance that a satisfactory explanation for their occurrence should be sought, and, if found, doubtless would be welcomed by all.

To be continued.

THE GREENE COUNTY MEDICAL SOCIETY

December Report

The annual meeting of the Greene County Medical Society was held at the City Hall in White Hall, Illinois, Friday, December 14, 1917.

Dr. J. J. Lewis was elected to membership.

The application of Dr. H. W. Garrison, of Hillview, was referred to the board of censors for action.

The question of ethics was brought up and discussed, as to physicians selling out and later coming or contemplating coming back into the same city or community to practice, the matter finally being referred to the board of censors for a decision of same.

The annual report of the secretary-treasurer for 1917 was read and accepted.

The annual membership dues were raised from \$3.00 to \$3.25.

The following officers were elected for 1918: President, L. J. Hensler, Carrollton; vice-president, E. E. Jouett, Carrollton; secretary-treasurer, L. O. Frech, White Hall; censor for 3 years, F. N. McLaren, White Hall; delegate to State meeting, 2 years, C. R. Bates, Roodhouse; alternate delegate, 2 years, O. L. Edwards, Roodhouse.

A motion by Dr. Peek that the society pay the expenses of the delegate to the State meeting each year was defeated.

In view of the fact that one of our members, in the person of Dr. L. O. Hamilton, of Roodhouse, has been commissioned in the Medical Officers' Reserve Corps, and expects to leave at any time, a motion was made by Dr. Bates, "that any member of the Greene County Medical Society leaving for service in the army or navy issue a card to each of his patients, instructing them to present same to other physicians consulted in his absence, stating that he has gone to the colors, that such physician or physicians may know that he has been the family physician, and that said physicians consulted turn over to his family each month such fees as are due him as per resolution stated elsewhere in these minutes." Carried.

The secretary was instructed to have inserted in each of the county papers a notice regarding our action relating to those physicians who join the colors.

It was suggested by one member of the society that that some steps be taken toward the elimination of one telephone system, inasmuch as two systems are a nuisance and a double expense to the medical profession. Motion by Dr. Peek that a committee, consisting of Dr. McLaren, White Hall; Dr. Edwards, Roodhouse, and Dr. Jouett, of Carrollton, be appointed by the president of the society to investigate and take the necessary steps towards the elimination of one telephone system by the medical profession of the county and report the action of same at the earliest opportunity. After a lengthy discussion the motion was put before the society and passed.

Motion by Dr. Chapman that our delegates to the state society work for the passage of a resolution by the state society, to be presented to congress, for a law making military service for young men obligatory. Upon vote the motion carried.

Motion that the secretary write to the State Board of Health and obtain the full contents of the law on venereal diseases. Motion carried.

The following were appointed members of the Judiciary committee, by the new president for 1918: Howard Burns, Carrollton, chairman; C. R. Thomas, Roodhouse, and F. H. Russell, Eldred.

Censors reported Carrollton as the next place of meeting, Friday, February 8, 1918. Fifteen members were present.

A chicken pie dinner, served by the ladies of the First Methodist Church, was enjoyed by the society. Adjourned.

L. O. FRECH,
Secretary.

MADISON COUNTY

Our December Meeting

The Madison County Medical Society met in Alton, on December 7, 1917, at 2 o'clock with Vice-President Dr. J. H. Siegel, presiding.

Members present: Halliburton, Pfeiffenberger, Ferguson, Barnsback, Luster, J. H. Fiegenbaum, Schreifels, Beard, Siegel, Vaught, Berry, Kaeser, Meloy, Hale, Gossard, Bowman, Waldo Fisher, Cook, Lemen, Taphorn, Joesting, Wilkinson, MacNamara, Schroeder and E. W. Fiegenbaum. Visitors: Mrs. J. H. Siegel, of Collinsville, and Dr. George A. Zeller, Superintendent of the Alton State Hospital.

All of the bill referred to special auditors, Pfeiffenberger, Luster and Barnsback, found correct and ordered paid. Application for membership of Dr. Walter A. Day, of Alton, was presented and referred to Board of Censors. Upon favorable report the rules were suspended and Dr. Day was declared elected to membership. The secretary reported that the census of physicians of Madison county had been taken, and on motion of Dr. Luster a committee of five was appointed to review the reports and notify the state authorities. The chair appointed Drs. Fiegenbaum, Luster, Pfeiffenberger, and Kaser, and by special request Dr. Siegel was added to the committee. The secretary was instructed to buy 500 Red Cross Christmas Seals for the use of the society and also a like number of seals for the Madison County Anti-Tuberculosis Association.

Dr. Luster announced the death of Dr. John W. Baker, of Granite City and on motion the chair appointed Drs. Luster, Schreifels and Schroeder as a committee to draft suitable resolutions and to report at our next meeting. In the matter of Dr. R. B. Scott, Dr. Barnsback reported that one member of the committee had died and one was called to service. The chair appointed Drs. Kiser and Fiegenbaum to fill the vacancies.

The reports of the secretary and treasurer for the year were read and referred to special auditors Pfeiffenberger, Luster and Ferguson, compared, found correct and upon motion were accepted and ordered filed. Dr. E. A. Cook was elected as Medical Director of Tuberculosis for Madison county.

The annual election of officers for the coming year was held and results are published on page 3 of this issue. The newly elected president was introduced and gave a very interesting account of his recent visit to Washington. He reported in detail on the Carrel-Dakin Solution as he saw it in use at the hospitals of the Capitol City. He also distributed copies of the formula for making Chloramine Paste, an agent highly recommended in the treatment of slight or extensive wounds.

Dr. George A. Zeller, superintendent of Alton State Hospital, made a short talk which was highly appreciated. On motion of Dr. Lemen it was ordered that the annual dues of every one of our members in actual service be remitted until the end of such service and that the individual members be notified of this action.

The new rules of the Department of Public Health,

effective November 1, 1917, making all venereal diseases in the infectious stage reportable, the same as other communicable diseases, were read and provoked a storm of discussion. It was announced that the state authorities were determined to enforce these rules. On motion adjourned to meet in Edwardsville on the first Friday in January, 1918.

Our January Meeting

The first meeting of the Madison County Medical Society in 1918, was held at Edwardsville on the afternoon of January 4, 1918, with Vice-President Dr. A. F. Kaeser in the chair. Twenty-five members present. Also two visitors were present.

The minutes of the last meeting were read and approved. Dr. D. A. Smith, of Madison, was elected to membership. Upon application of Dr. W. H. C. Smith it was agreed to receive the application of Dr. Groves B. Smith to become a member of this society. Bills were presented, referred to auditors, found correct and ordered paid. Dr. R. D. Luster reported resolutions on the death of Dr. John W. Baker which were unanimously adopted.

WHEREAS, Through an unfortunate combination of circumstances, the career of Dr. John W. Baker, our brother physician and fellow member of the Madison County Medical Society, was cut short; and

WHEREAS, Through his death our society has lost an energetic and enthusiastic member; and his family a devoted husband and father; be it

RESOLVED, That we feel this loss deeply and that we miss his presence in the midst of our activities; be it further

RESOLVED, That we express our sympathy to his family; and be it further

RESOLVED, That these resolutions be spread on the minutes of our society and printed in the Madison County Doctor and a copy sent to the members of his family.

R. D. Luster,
Hugo C. H. Schroeder,
L. Schreifels.

Dr. E. A. Cook, as County Tuberculosis Director, reported that 17 young men from Madison County had been returned to their homes from cantonments, because of tuberculosis, and requested the aid of our members in taking care of these men. Dr. R. D. Luster reported that the final results of the sale of Red Cross Seals would probably amount to \$3,000.00, and promised an itemized statement for our next meeting.

Dr. John J. McShane, Chief of the Bureau of Communicable Diseases, gave a fine address on the rules adopted by the Department of Health, which makes all venereal diseases in their infectious stages, reportable. The whole matter was discussed for over an hour, much to the benefit and instruction of all present.

One Hundred Per Cent

All of our members from Highland and all of our members from Livingston were present at our last meeting. This meant an overland trip of from 36 to

40 miles in winter weather over winter roads. Nothing yellow about this, we think.

McHENRY COUNTY

The November and last meeting for 1917 of the McHenry County Medical Society was held in the Court House at Woodstock, Wednesday, Nov. 14, 1917. The program of the meeting was along the lines of "Public Health and Prevention of Communicable Diseases." The speakers of the occasion were Dr. C. E. Crawford, of Rockford, District Health Officer, and State's Attorney V. S. Lumley of Woodstock. Dr. Crawford went over in detail the commoner contagious diseases, giving not only the classical diagnosis of each, but pointed out many diagnostic symptoms observed by him during his many years of health work. Mr. Lumley followed Dr. Crawford with a most instructive talk upon the legal side of these questions, bringing out many points that were new or had been unthought of by most of those present. Taken all in all this was one of the most interesting and instructive meetings ever held in McHenry County. Twenty physicians and a number of supervisors attended the meeting.

The following officers were elected for 1918: President, Dr. C. C. Peck, Harvard; vice-president, Dr. N. L. Seelye, Harvard; secretary-treasurer, Dr. Hyde West, Woodstock; delegate for one year, Dr. Eshbaugh, of Marengo; censors, Dr. Pflueger, one year; Dr. Freeman, two years.

Motion made and seconded that a rising vote of thanks be extended to Mr. Lumley and Dr. Crawford. Carried.

Adjournment was then taken for dinner.

HYDE WEST,
Secretary.

Personals

Dr. R. O. Hawthorn has removed from Roodhouse to Monticello.

Lieut. A. P. Robertson, of Alton, is now in Ft. Riley, Kansas, for military training.

First Lieut. Ira E. Neer, Springfield, has been assigned to the base hospital at Alexandria, La.

Dr. C. H. Kring and family of New Douglas have removed to Staunton, where they will reside permanently.

Dr. Arthur L. Roberts, Taylorville, suffered from a dislocation of the shoulder due to a runaway horse last month.

Dr. Wm. E. Krumsiek, formerly of Nashville, Ill., has opened offices for practice of medicine at 2011 D. street, Granite City.

Capt. Warren O. Wheelock, M. R. C., Chicago, was reported at the field hospital at Camp Lee, Petersburg, Va., last month.

Capt. W. E. Park, Rockford, has been promoted from first lieutenant and assigned to a military camp in Mississippi.

Maj. Philip Schuyler Doane, Chicago, is said to have been appointed director of health and sanitation for the shipping board.

Dr. W. H. Gilmore, Mt. Vernon, secretary of the Illinois State Medical Society, has recovered from a long siege with a carbuncle.

Dr. Chas. R. Kiser of Madison has received his commission as captain in the Medical Officers Reserve Corps, and is now awaiting orders.

Dr. H. Gideon Wells has returned from Roumania, to which country he was sent as a member of the American Red Cross Mission.

Capt. Edson B. Fowler, M. R. C., of Evanston, was assigned to take a course in military orthopedic surgery in Philadelphia last month.

Dr. J. W. Worthen, who formerly practiced medicine in Bushnell, is said to have been commissioned captain in the Engineer Corps, U. S. A.

Dr. John W. Seids, Moline, has been appointed physician to the Deere Works, succeeding Dr. Henry Arp, resigned, to enter military service.

Capt. R. T. Vaughan, M. R. C., and First Lieut. Karl Meyer, M. R. C., of the Cook County Hospital staff, have recently been commissioned.

The French government has awarded to Dr. Jane Wells Craven, formerly of Evanston, the Croix de Guerre for rescuing and aiding wounded under fire.

Dr. Marcus S. Oliver is under treatment in the Michael Reese Hospital, on account of a skull fracture sustained in a collision between automobiles, January 9.

Dr. Joseph Milligan, of Jacksonville, expects to sail soon for service in the tuberculosis hospitals of France, under the auspices of the Rockefeller commission.

First Lieut. Joseph Lundholm, M. R. C., recently commissioned, has been health commis-

sioner of Rockford since Dr. W. E. Park resigned to accept a commission.

Dr. C. St. Clair Drake, director of the Illinois State Department of Health, visited army camps in several states last month on a sanitary commission of the government.

Dr. A. E. Everett, of St. Louis, has removed to Granite City to take over the practice of the late Dr. J. W. Baker. He is a brother of the late Dr. W. W. Everett of Highland.

Dr. Harry P. Reuss of Granite City has received his commission as lieutenant in the Medical Officers Reserve Corps and was ordered to Ft. Riley, Kansas, for instruction.

Lieut. G. C. Bullington, M. R. C., Nokomis, reported at Houston, Tex., is said to have two brothers in the army there; one a major, the other a lieutenant. The brothers are attorneys.

Capt. Charles J. Swan, Evanston, has completed the course in brain surgery at the University of Pennsylvania, and been assigned to the base hospital at Camp Wheeler, Macon, Ga.

Dr. Frazier Cloyd, Westville, has been appointed local surgeon of the Illinois Traction System, succeeding Dr. Melvin L. Hole, Danville, resigned, to enter military service, and on duty at Fort Riley, Kan.

Dr. Charles Joseph Swan, Evanston, chief of the staff of the Evanston Hospital, resigned January 15 to enter the medical service. He has been assigned to duty at the base hospital, Camp Wheeler, Macon, Ga.

Dr. Heman H. Brown was elected president; Dr. Carlos O. Edgar, Dixon, vice-president; Dr. Alfred N. Murray, secretary, and Dr. J. F. Burkholder, councilor, of the Chicago Ophthalmological Society last month.

Dr. Edwin Oakes Jordan, head of the department of bacteriology of the University of Chicago, returned, January 12, from Fort Sill, Okla., where he has been making a study of epidemic cerebrospinal meningitis.

December 27th Dr. John A. Koch was elected president of the staff of physicians of St. Mary's Hospital, Quincy, succeeding Dr. Otis Johnston, and on the following day he resigned as president of the staff and from the staff of the hospital.

News Notes

—Dr. A. L. Blunt, sentenced for five years and to pay a fine of \$12,000 under the Harrison law, is still "out on bond."

—The fuel conservation days caused such holiday conditions generally that many physicians whose offices were heated as usual found few patients calling.

—January 6th the Italian colony of Chicago did honor to Dr. Giovanni B. Bruno, who is now on the Italian front, by giving a dance and bazaar for the Red Cross Ambulance Fund.

—The twenty-eighth annual meeting of the Visiting Nurses' Association of Chicago was held in the Blackstone Hotel, January 9, under the presidency of Mrs. Arthur Aldis. Dr. Frank Billings delivered an address on "Russia."

—At the annual meeting of the Chicago Ophthalmological Society, January 21, Dr. Heman H. Brown was elected president; Dr. Thomas O. Edgar Dixon, vice-president; Dr. Alfred N. Murray, secretary, and Dr. Jacob F. Burkholder, treasurer.

—The State Department of Registration and Education gave the quacks accused of swindling by reporters of the Tribune a hearing January 18. A summary revocation of a few licenses would do much to convince the skeptical that the new law is "rat proof."

—The third annual meeting of the Chicago Society of Internal Medicine was held January 28 under the presidency of Dr. Robert B. Preble. Dr. George B. Eusterman, Rochester, Minn., presented a contribution on "Gastric Syphilis," with a report of forty proved cases.

—A clinical conference on tuberculosis was held in Springfield, January 23, 24 and 25, at which the war tuberculosis problem was thoroughly discussed. Dr. Frank Billings, Ethan A. Gray, Orville W. McMichael, and others attended the conference and acted as instructors at the clinic.

—The Coles-Cumberland Medical Society have elected the following officers: President, J. F. Nolan, Mattoon; vice-president, C. E. Morgan; secretary-treasurer, R. H. Craig, Charleston; censor, Ed. Summers; delegate, R. J. Coultas,

both of Mattoon. Two members of this society, Will L. Smith, Toledo, and G. B. Dudley of Charleston, are said to be in France.

—The intense and long continued cold last month, combined with record snowfall, trying enough under any circumstances, was especially severe on practice in the country. Many a country doctor, with rig or auto stuck in the drifts, completed the necessary trip wallowing on foot. Such experiences recall Dr. MacClure and should earn the lasting gratitude of the patient, as well as a good fee.

—The Cook County Commissioners and the staff of the county hospital have offered the services and facilities of the hospital to the Surgeon-General Wm. C. Gorgas for the training of physicians and surgeons of the United States army. In describing the institution, President Reinberg stated that the institution had 2,400 beds, a competent staff selected under civil service, and was a clearing house for the industrial surgery of 3,000,000 people.

—Eight courses have been added to the studies required of the medical, sanitary and veterinary corps at the medical training camps at Fort Oglethorpe, Ga., and Fort Riley, Kans. These are for x-ray specialists, orthopedic surgeons, psychologists, special examining surgeons, sanitary engineers, veterinarians, sanitarians and hospital administration. Three additional courses, general military surgery, genito-urinary surgery and military surgery of the brain, are under consideration.

—Dr. Overton Brooks, chief examining surgeon of the navy recruiting station at 619 South State street, Chicago, after examining 5,000 recruits, is reported as follows: "We are not a race of physical degenerates by any manner of means, but we are a race of physical neglects." The rigid tests of the navy caused the rejection of 3,100, but of this number 1,217 could be reclaimed by treatment and training if reclamation hospitals were established. Thus practically two-thirds are rejected at present. With proper institutions two-thirds would be acceptable.

—A military banquet was given by the Physicians' Club of Chicago, January 15, at the Auditorium in honor of Major L. McArthur, medical director of Base Hospital Unit No. 14; Major

Dean D. Lewis, medical director of Base Hospital Unit No. 13, and Major Nelson M. Percy, medical director of Base Hospital No. 11. Major McArthur responded on behalf of the Base Hospital Unit; Col. Henry I. Raymond, M. C., U. S. army, department surgeon, central department, spoke on behalf of the Medical Corps of the Army; Col. J. S. Dennis, commanding the British Recruiting Mission, told of his work in France and England during the war, and Mr. Marquis Eaton, chairman of the Chicago Chapter of the American Red Cross, discussed some phases of Red Cross work.

—Hospital Unit No. 13 entrained at Chicago January 19 with twenty-seven officers and 126 enlisted men. Red Cross nurses will join them at the port of embarkation. The list of officers follows: Lieut. Col. Chandler D. Lewis, commanding; Capt. W. P. Sights, adjutant. Medical staff: Capt. R. C. Brown, Capt. L. C. Gatewood, 1st Lieut. D. F. Abbott, 1st Lieut. W. T. Robinson, 1st. Lieut. G. O. Solem, 1st. Lieut. T. D. Allen, Capt. L. J. Pollock. Surgical staff: Maj. Dean D. Lewis, Capt. D. B. Phenister, Capt. V. C. David, Capt. A. H. Montgomery, Capt. W. P. Sights, Capt. E. M. Miller, 1st Lieut. M. Hanchett, 1st Lieut. W. A. Taylor, 1st Lieut. A. M. Carr, 1st Lieut. Cameron. Laboratory staff: Capt. A. R. Metz, 1st Lieut. W. E. Gatewood, 1st Lieut. W. D. McGath. Dental staff: 1st Lieut. W. M. Morgan, 1st Lieut. C. F. Pickering, 1st Lieut. Hamline, quartermaster; Chaplain Ware.

—The meeting of the North Shore Branch, Chicago Medical Society, January 8, was devoted largely to the experiences of members of District Appeal Boards. Drs. James B. Herrick and M. L. Harris had each examined hundreds of appeal cases and described the difficulties under which the work is often done and the many ruses resorted to by the selected men. Dr. Harris stated that the original intention of the War Department was to demand a complete physical reexamination of all appellants, but on his argument the plan was changed so that only the conditions on which the appeal was based were examined, thus saving an immense amount of work. Major S. C. Stanton also gave an interesting resumé of the regular army examination routine from his extensive experience. Dr. O. W. McMichael spoke on the subject, "Tuberculosis as Related to

the Draft Question." And Dr. Robert H. Babcock gave an address on "Prognosis in Cardiac Affections as Related to the Discovery of Murmurs, and to Arrhythmia."

—Chicagoans given commissions in the reserve corps by the war department Jan. 25 were: Irvin S. Koll, 6900 Euclid, captain, medical corps; David C. Straus, 949 Hyde Park boulevard, captain, medical corps. The following from the Cook county hospital were commissioned first lieutenants in the medical reserve corps: Paul Black, Ralph W. Carpenter, Lloyd B. Clinton, Charles P. Eck, Lynn W. Elston, Carl Freund, John F. Grant, Martin B. Jelliffe. From Michael Reese hospital are: Clarence H. Boren, Harry C. Dunlavy, Maurice Doktorsky. Others commissioned first lieutenants, medical corps, are: Arthur S. Bristow, 2449 Washington boulevard; Emor L. Cartright, 1002 Wilson avenue; Charles B. Chouinard, 1928 North Tripp avenue; John D. Davenport, 18 South Michigan avenue; John E. Tally, 1850 West Harrison street; Arthur M. Evans, 2457 Wilcox avenue; George F. Farman. Presbyterian hospital; Frank C. Farmer, 25 East Washington street; George G. Gordon, 1233 Hoyne avenue; Edward Hans, 830 Wellington avenue; Leroy H. Harner, 327 South Campbell avenue; Charles F. Harris, 4164 Clarendon avenue; William J. Henry, 2100 Burling street; Russell D. Uerroid, 624 Independence boulevard; Tom F. Beveridge, 2814 Cottage Grove avenue; Nathan D. Leviton, 2452 West North avenue; John Pellettieri, 1018 South Ashland boulevard.

Marriages

LOUIS GILBERT WEHRLE, M. D., to Miss Irene Frances O'Brien, both of Chicago, recently.

DONALD PUTNAM ABBOTT, M. D., to Miss Marion Dummer, both of Chicago, January 14.

LIEUT. SAMUEL JACK TAUB, M. R. C., U. S. army, to Miss Thelma Goldberg, both of Chicago, December 23.

ALEXANDER L. BLACKWOOD, M. D., Chicago, to Miss Sylvia Bell of South Chicago, Ill., in Toronto, January 16.

LIEUT. PLACIDO RAMOS VASQUEZ HOMMEL, M. R. C., U. S. army, to Miss Maude Twining, both of Evanston, Ill., recently.

FIRST LIEUT. THOMAS J. RIACH, M. R. C., Kankakee, to Miss Loraine Agen Griffin of Houston, at Houston, Texas, January 11.

ASST. SURG. JAMES E. MILLER, JR., U. S. N. R. F., Chicago, on duty at Sacramento, Cal., to Miss Lucille Thomas of Sacramento, Sept 5.

LIEUT. CARL FOSTER SNAPP, M. R. C., U. S. army, Chicago, now on duty at Fort McPherson, Ga., to Miss Alice Noyes Stafford of Chicago, at Grand Rapids, Mich., December 12.

Deaths

CHARLES D. CAMP, M. D., Chicago; Rush Medical College, 1879; aged 73; died at his home, January 8, from gangrene.

JAMES ALBERT MONROE, M. D., Chicago; Rush Medical College, 1864; Bellevue Hospital Medical College, 1869; aged 75; formerly of Chenoa, Ill.; died at his home, January 3, from chronic nephritis.

GEORGE D. B. DODS, M. D., Chicago; College of Physicians and Surgeons, Chicago, 1895; aged 56; a Fellow of the American Medical Association; died in Valmora, N. M., January 9, from tuberculosis.

MALCOLM C. ROE, M. D. Chana, Ill.; Physio-Medical College, Cincinnati, 1872; Bennett Electric College Chicago, 1878; aged 75; a Fellow of the American Medical Association; died at his home, December 28.

JOHN BROWN MATHIS (Years of Practice, 1877), Mound City, Ill.; aged 78; a veteran of the civil war and practitioner for many years at America and Mound City, died at his home, January 6, from senility.

CAPT. WILLIAM ELVIS HARWOOD, M. D., Joliet, Ill.; Rush Medical College, 1880; aged 58; died early in January from pneumonia while serving as an x-ray expert with Northwestern University Medical Unit No. 12 in France.

JOHN B. MEIGS, Manito, Ill. (license, years of practice, Illinois, 1889); aged 82; a practitioner since 1856; surgeon of U. S. Volunteers, during the Civil War; also a clergyman; died at his home, November 26, from cerebral hemorrhage.

CHARLES HENRY BURLEY, M. D., Chicago; Tulane University, New Orleans, 1904; aged 39; formerly a Fellow of the American Medical Association; died in Natchez, Miss., December 30, a day after an operation for disease of the stomach.

JOHN G. MCKINNEY, M. D., Barry, Ill.; Rush Medical College, 1868; aged 81; a member of the Illinois State Medical Society; formerly president of the Pike County Medical Society; died at his home, December 3, from senile debility.

ANNETTE S. DOBBINS RICHARDS MACK, M. D., Chicago; Northwestern University Woman's Medical School, Chicago, 1882; aged 78; formerly a member of the Illinois State Medical Society; died at her home, January 6, from cerebral hemorrhage.

MARTIN LELAND DOLLAHAN, M. D., Chicago; Rush Medical College, 1917; aged 26; an intern at Presbyterian Hospital, Chicago; died in that institution, December 15, from septicemia secondary to an infection of the hand due to a necropsy wound.

GEORGE SCHMAUCH, M. D., Chicago; University of Königsberg, Germany, 1892; aged 51; a Fellow of the American Medical Association; died while proceeding to a professional call in one of the northwestern suburbs during the blizzard of January 13.

OLIVER ALLEN MCINTOSH, M. D., Macomb, Ill.; Rush Medical College, 1903; aged 52; died at the Marietta Phelps Hospital, Macomb, January 8, from septic infection of the thumb received while operating on a patient. His three sons are all in the army and stationed at Houston.

BENJAMIN BUCKMAN, JR., M. D., Butler, Ill.; Keokuk Medical College, College of Physicians and Surgeons, Keokuk, Iowa, 1908; aged 41; formerly a member of the Arkansas Medical Society; died at the home of his father in Farmingdale, Ill., December 9, from paralysis and endocarditis.

CHAUNCEY SHERRICK, M. D., Monmouth, Ill.; Missouri Medical College, St. Louis, 1881; aged 59; a Fellow of the American Medical Association, and a member of the American Association of Railway Surgeons, and Mississippi Valley Medical Association; local surgeon of the Iowa Central Railroad; died at his home, December 28.

ALFRED COLES HAVEN, M. D., Lake Forest, Ill.; University of Syracuse, N. Y., 1880; aged 60; a Fellow of the American Medical Association, and once president of the Lake County Medical Society; for two years surgeon for the Pacific Mail Steamship Company; one of the most prominent and beloved practitioners of northern Illinois; died at his home, January 3, from angina pectoris.

CAPT. ROBERT TRACY GILLMORE, M. D., M. R. C., U. S. Army, Chicago; died at Camp Greenleaf, Fort Oglethorpe, Ga., January 20, from a virulent streptococcus-influenza infection, after an illness of four days. Dr. Gillmore was a native of Chicago, and was 50 years of age. He was a graduate of the Northwestern University Medical School in 1892, and was clinical instructor in gynecology in that institution. He was a fellow of the American Medical Association, and had served acceptably as secretary of the Chicago Medical Society. He was also surgeon for the South Side Elevated Railroad Company. He only recently accepted his commission as captain in the Medical Reserve Corps, and was ordered on active duty. He left Chicago for his new station, January 10. The funeral services were held and the body was interred in the National Cemetery, Chattanooga, Tenn., January 22.

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Original Articles

PERSONAL HYGIENE FOR TROOPS IN THE FIELD.*

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CHICAGO

The subject of personal hygiene is one with which every physician is more or less familiar. However, when consulting texts, preparatory to instruction of officers and men of the army, the medical officer will be confronted by a mass of details and the failure to emphasize the important facts in this subject.

The subject matter of the following outline of personal hygiene is condensed. It contains only such facts as have been found necessary in the education of troops with which I have been associated during the past years. The teaching of this subject to the men of the organization to which the medical officer is assigned is part of his duties as laid down in the Manual of the Medical Department.

To the medical officer taking military service for the first time, many of the facts of personal hygiene may seem obvious. He will learn, however, in a very few days, that what to him is axiomatic is to the officers and men of his organization an entirely new subject.

1. *Air.* Fresh air and plenty of it is a primary essential for good health. Considering its cheapness and prevalence, it is one of the commonest factors in personal hygiene that is neglected. Whether working in an office or in barracks or even sleeping in a tent in the field, sufficient fresh air should be admitted to allow frequent change. In order to get the fullest benefit of outdoor air one should practice deep breathing. In

the Sibley tent the top hood should always be open at night, and the door should be partially open to allow circulation. In the wall tent the door should never be tightly closed, except in the most inclement weather.

Cold air is no more beneficial than hot air, and cold air does not mean greater purity. Hot, fresh air does not stimulate as much as cold air, but its value from the standpoint of health is just as great. It is through deficient ventilation that such diseases as common colds, tonsillitis, bronchitis, pneumonia, and many of the acute infectious diseases are transmitted from one person to another.

2. *Light.* (a) *Natural.* Sunlight is the most efficient and least expensive of all germicides. Virtually every microorganism is killed by exposure to direct sunlight for thirty minutes. Sunlight is, therefore, essential in dwellings, because germs which otherwise would multiply are killed by it. Window shades should never be tightly closed during the entire day to keep out sunlight. Houses should be built where there is some shade, but not so much that the sunlight is entirely excluded.

The effect of sunlight on the human system is beneficial when the exposure is not too prolonged and not too intense. Every individual realizes how much better he feels and how much more fit he is for usual occupation on a bright day than on a dull one. Prolonged sunlight, however, is harmful when combined with intense heat which accompanies it in the summer months.

Intense sunlight, either direct or reflected from snow or ice, is very harmful to the eyes, and may produce a temporary blindness. It should be guarded against by the wearing of amber glasses. Direct sunlight on exposed surfaces of the body, such as arms, face, neck and chest, will produce a burn just as intense as a burn from scalding water. It will produce the same and as serious systemic effects, namely, prostration, fever and

*Compiled from a series of lectures delivered to officers and men of 1st Ill. Cav., 2nd Reserve Militia and Cook Co. Ambulance Co.

nephritis. In the field the sleeves should be kept rolled down, and the hat on in order to protect the face and arms from this burning.

(b) *Artificial.* When working with artificial light it is desirable that the light be sufficiently intense to allow easy reading of fine print. It should be so placed that it does not shine directly in the eyes, and should not be of such intensity as to dazzle.

3. *Clothing.* The clothing worn in summer should be light cotton, and while in civilian life athletic underwear is desirable, it is not so in marching. Underwear is essential to the soldier because the dust and sand work into his outer clothing, and unless his legs are well protected, chafing results, and he is unable to resume the march. This is particularly true of mounted soldiers, but is likewise important in infantry work. The number of layers of clothing worn are of great importance for the retention or dissemination of heat. During the summer fewer layers of clothing should be worn, as the insulation due to the air spaces between the various layers is the factor of great importance in the retention of heat. The fewer the air spaces the more rapidly will the surfaces of the body be cooled, and the more comfortable will the man be. During the winter, in active outdoor campaigns, heavy clothing should be worn and wool or heavy cotton underwear is desirable, but it is the number of layers of clothing rather than the increase in the weight of the individual garment which is the factor of greatest importance. It is far better to wear a sweater and heavy overcoat, both of which may be removed when entering a warm office or barracks, than it is to wear two suits of heavy underwear which may not be removed until night.

Day clothing and night clothing should always be different. In the field, in tents, or in barracks, where heating facilities may be deficient, it is not infrequently necessary to sleep in as much clothing as one wears during the day. Under these circumstances the underwear and socks worn during the day should be changed to another set. No shoes or puttees should ever be worn at night except when a man is on duty.

Where possible at night, underwear and clothing should be removed, and the soldier should sleep in pajamas. In winter the man should be at-

tired in flannelette pajamas, with the addition of socks and a woolen helmet, if necessary. In sleeping there should be sufficient blankets to keep one warm. An important essential, however, is the arrangement of the bed clothing by tucking in around the body rather than tucking in around the mattress or tick. It is very important to have sufficient covering under one when sleeping on a cot, because otherwise the cold penetrates the canvas, and no matter how much top covering one has, sleep is poor because of cold.

The wearing of the clothing of another individual, unless clean from the laundry, is very undesirable, as this habit is frequently responsible for the transmission of lice and skin infections.

4. *Hat.* The army hat, when worn according to regulations, is a fairly satisfactory hat for the protection against sun-stroke. It has a large area of air space between its peak and the scalp, and is made of ray-impermeable material. It was designed with this idea in mind, and it should be worn constantly on the march and in camp as well.

The sweat band should be frequently washed with soap and water to prevent inflammation of the skin of the forehead.

5. *Shoes.* No man should start on a campaign of any type without at least two pairs of good shoes broken in for marching. The shoes should be roomy but not of the type that slips up and down on the foot. Many a man has been cured of corns by the wearing of the regulation army shoe which is wider across the toe than that worn in civil life. The soles must be perfect, and the tongue fit smoothly. Eyelets are preferable to lacing hooks.

6. *Feet.* Daily bathing of the feet is essential. Without this daily cleansing they chafe rapidly, blister frequently, and disable the soldier. After bathing carefully, the nails should be cut straight across and all corns trimmed down closely. It is desirable on the march to use talcum or any one of the foot powders on the market. The medical department of the army supplies a very good one.

7. *Socks.* Two types of socks, woolen and cotton, are issued in the army. The woolen socks are of the type called cashmere, and are moderately heavy gray socks without sole seams. The sizes run large as they should, and the socks shrink on washing unless this is carefully done. A woolen sock is the most desirable for men in the field, both

winter and summer, as it protects the feet against chafing from shoes, and in cold weather is warmer than the ordinary cotton sock of civil life. They should always be roomy, for a short sock will do as much harm to a foot as a short shoe. They should never be worn with holes because of the friction on the toes. Every man should be provided with at least six pairs on taking the field.

8. *Bathing.* Bathing in the field is even more essential for good health than in civil life. The soldier, as has been mentioned before, must make every effort to bathe his feet at least once daily, and the same rule applies to the axilla and genital region. Where possible, a full bath must be taken daily, but where this is impossible, sufficient water is, as a rule, at hand to bathe the regions mentioned. The full bath is essential to remove dirt, grease and the results of perspiration, and to keep the glands of the skin functioning properly. The regional bathing is essential to prevent chafing. By frequent bathing that great scourge of armies, lice, is largely prevented. Lice may be absolutely prevented by a daily bath and change of underwear.

When the bathing is done by swimming in streams or ponds, great care must be taken not to take any of the water into the mouth, because this water is always contaminated with germs, producing intestinal difficulty of one type or another.

Hands. It is essential that the hands be washed before eating, and that the nails be kept properly cleaned. The duties of a soldier are such that it is necessary for him to handle many articles that are infectious, and unless his hands and nails are well cleaned before mess, he will contaminate all the food that he eats, and through this contamination, produce many serious diseases.

9. *Hair and Beard.* For two reasons, neatness of appearance and prevention of headlice, the hair should be kept closely trimmed. For the same reasons the man should be smooth shaven. Nothing so detracts from the appearance of a soldier as a three or four-day growth of beard.

10. *Teeth.* In his personal equipment every man should carry a tooth brush and tooth paste. Brushing should be done after meals with an up-and-down motion rather than with the lateral motion so frequently used. All large particles of food should be removed from the interstices with a soft tooth pick or dental floss. The teeth

should be kept in repair, for it is through decayed teeth and abscessed roots that many diseases, such as rheumatism and septic infections, enter the body.

11. *Expectoration.* The expectoration of mucus in public places is undesirable both from an esthetic and health standpoint. In spitting or sneezing in the presence of other individuals, except on an open sun-swept field, one transmits influenza, colds, tuberculosis and other diseases.

12. *Food and Water. Food.* In private life, the individual chooses his food largely according to the whims of his palate. He, as a rule, chooses a mixed diet, but in most instances it is not well-balanced. It should consist of a large amount of fruits and vegetables with a lesser amount of starches in the form of bread, pastry, cereals and the addition of sugar and a still smaller amount of fats. To this diet, meat should be added in an amount lying somewhere between the fats and starches. In the army the food is supplied as such, as it is under the supervision of company officers and mess sergeants. The diet here should be mixed in the same manner as described above. Every effort should be made to supply as large amounts of fruits and vegetables as is possible, for their absence leads to several serious diseases such as scurvy and beriberi, and that most common ailment constipation and its attendant ills. All fruit and vegetables should preferably be cooked except that type of fruit which can be pared before eating.

• Food, to be palatable, must be properly cooked, must present variety, and must be properly seasoned. Nothing produces more unhappiness than improperly prepared food, and an army to be efficient must be happy. In the army the character of the food furnished to the companies is far better than the average obtained in the better class of restaurants or homes. Its preparation, however, is rendered difficult to green men by the use of strange cooking utensils. With proper training, however, the very best mess can be made from the Government allowance of food without the addition of a cent for extras by individuals.

Water. A pure water supply is essential for the health of communities and individuals. Through impure water, typhoid, cholera and allied diseases are transmitted. In civil life the water

supply is usually guarded at the source, and only water of a known purity is used. In the field, however, the situation is an entirely different one, and it is not uncommon to have the drinking water polluted. Such water should never be used without first boiling it or subjecting it to some chemical means of purification. In the army, the Lister Bag, holding a measured amount of water, to which chlorine is added, is issued for field use.

Every soldier is provided with a canteen, which should be filled on the morning of the march. This canteen of water, regardless of the temperature, should last the soldier until the next camp is made when fresh water of known purity is supplied. An old soldier drinks very little water on a march during the hottest day, and during cold weather almost none. He knows from experience that he will march better and have less intestinal difficulty if he does not drink while marching. Rinsing the mouth out with a small amount of water is desirable, but the swallowing of copious draughts produces cramps.

Weak tea and coffee served with meals is a proper manner of putting fluid into the body, during an active campaign or march. This water has been boiled in the process of making the beverage, and consequently contains no disease germs. Water from wells driven eighty or more feet and piped to the surface is always safe. Running water or water from ponds or lakes is usually contaminated by drainage from the surrounding territory, and the drinking of such water will produce intestinal difficulty as well as typhoid and allied diseases. The same is true of the dug well of a farm.

Ice. Ice made from water of a polluted stream contains nearly as many disease germs as does the water itself. If it has aged for three or four months the germs die out to a limited extent, but such ice should never be used directly in drinking water or other beverages, nor should any food ever lie directly on it. When desirable to ice beverages, the proper method is to use a barrel or other receptacle filled with ice into which is set a milk can containing the beverage.

13. *Exercise.* Exercise is essential for the development of the heart and other muscles. While many individuals are endowed at birth with normal muscles and heart, lack of use interferes with their proper development and function. Daily, systematic exercise should be taken by

every individual who desires to become an efficient soldier. Those laid down in the drill regulations as "setting up exercises" are desirable. They are so arranged that all muscles of the body are brought into play, but special stress is laid upon the development of the arms and chest, for these are the groups commonly neglected.

Irregularity in exercise is to be condemned. No individual has a right to work his heart or any set of muscles to the maximum once a week. He should, instead, so gradually increase his heart and muscle competency by daily exercise that, in the event of what is to the ordinary individual extraordinary strain, his system will rise to the peak load.

Rest. After exercise, rest is essential for the removal of the waste materials generated in the use of energy. It is, therefore, essential that the conditions for sound sleep be present. These conditions are sufficient fresh air, sufficiently warm clothing and shelter from wind and rain. The average individual needs eight hours sleep daily, and, when possible, one's life should be so planned that the necessary hours be allotted for that purpose.

14. *Cots and Ticks.* Where possible a man should never sleep on the ground. In most active campaigns flooring is supplied and in a majority of semi-permanent barracks cots are used. Either with or without cots, ticks, to be filled with straw, are issued. It is essential that this straw be carefully scrutinized for the presence of vermin, and that it be frequently burned and replaced with fresh. Where ticks alone are furnished, they should not be placed directly upon the ground, but be separated from it by boards, boughs, or, if necessary, the poncho or raincoat, issued by the quartermaster.

In a mosquito country, the mosquito bar must always be tucked in at night around the cots. The bar issued by the War Department covers the entire cot and its use prevents malaria, dengue and yellow fever.

15. *Alcohol.* The use of alcohol in any form during summer tours of duty tends towards the production of heat exhaustion. The ordinary individual should do without stimulant of any kind except in a great emergency, when it will be issued by or under the supervision of the medical department. Alcohol is commonly issued in the trenches where excessive strain without food for

relatively short periods of time necessitates the addition of such stimulant.

16. *Tobacco.* The use of tobacco for smoking is not considered harmful to the majority of individuals. To some individuals, however, it acts as a distinct poison, and these men should never, under any circumstances, acquire the habit. Chewing tobacco and the taking of snuff have a deleterious effect upon the appetite and digestion, and, therefore, should not be used.

17. *Individualization of Canteens, etc.,* Drinking from another man's canteen or cup occupies the same position in regard to health as the borrowing of a tooth brush. The possibility of acquiring an infectious disease, such as tonsillitis, diphtheria, tuberculosis, or syphilis, through such habit, is a known fact, proven by many instances. The same danger lurks in the interchange of unwashed cups or eating utensils.

Lead pencils used by others should never be put in the mouth. Epidemics of diphtheria have occurred in this way.

Pipes should never be borrowed. Numerous cases of syphilis have been transmitted by this habit.

18. *Sexual Hygiene.* Sexual indulgence through indiscriminate intercourse is harmful. Continence and self-control in the male is valuable, firstly, from a moral standpoint, and secondly, from a standpoint of physical health. The moral strength acquired by self-abnegation in the field of sexual indulgence is greater than in any other. Intercourse is not necessary for the health of the individual. The nightly emissions, which occur in the normal healthy male, from time to time, represent nature's method of caring for an excess of secretion. The man who works and plays in a normal manner, who sleeps and eats as the healthy individual should, who has his mind constantly occupied with affairs of consequences to his present and future, has little or no abnormal sexual appetite. One should abstain from the detailing of erotic stories, from the company of lewd men and lascivious women.

From the standpoint of physical health, two of the greatest plagues to which humanity is heir are transmitted through illegitimate sexual intercourse. Syphilis and gonorrhoea in their immediate and after effects produce more physical debility and death than almost any other diseases known.

The vicious habit of self-abuse, common as it is amongst boys of immature age, is distinctly significant of a mental and nervous degeneracy in individuals of adult age. Every self-respecting individual must have sufficient self-control when he reaches an age of reasoning ability to break away from a habit with which he himself is disgusted. Its effect upon the nervous system and upon one's ability to concentrate and do conscientious work is known to be very deleterious.

Care of the prepuce. One of the factors in the production of excessive sexual desire is constant irritation of the penis through retained prepuccial secretion. This secretion should be removed by daily washing; if this excessive skin cannot be drawn back easily, the irritation should be prevented by the very slight operation of circumcision.

19. *Feces and Urine. Feces.* The average individual needs an evacuation of the lower bowel at least once daily. This removes the remnants of food and the bacteria which make up about fifty per cent. of the normal bowel movement. The retention of this mass of noxious substance is a factor in lowering the resistance so that under summer conditions heat exhaustion is favored. The absorption of certain poisons formed by the action of bacteria upon food stuffs produces headaches, loss of appetite and a feeling of general malaise. The lowering of resistance resulting makes the individual more susceptible to all the ordinary infectious diseases such as colds, tonsillitis, influenza, etc.

Under the ordinary environment of civil life, the individual should so select his diet to include sufficient fruits, coarse breads and coarse vegetables. If this is done, normal bowel movements without the use of medical cathartics is the rule.

In the field, however, the situation is a somewhat different one. The food issued is usually in a concentrated form without the addition of the cellulose and laxatives of fruits and coarser vegetables. Furthermore, strange toilet facilities and the nervous strain of a change from a known to an unknown occupation has a tendency to restrict the desire to go to stool. When first taking the field this must be counter-balanced, when necessary, by the use of mild medicinal cathartics, and every soldier should exercise constant watchfulness and report to the medical department if he goes a single day without a bowel evacuation.

On the march on an open road usually no toilet facilities are offered, and the man must go into the woods or cornfield along side to relieve himself. As part of his personal equipment, the soldier should always carry a supply of toilet paper. There is a regular issue of toilet paper by the army, but this, of course, is never at hand on the march. Its presence in a convenient pocket of a man's blouse is frequently a source of great satisfaction.

In a well organized company, a squad is detailed to build a straddle trench immediately upon occupation of a camp site. This trench, to accommodate one hundred men, is eight feet long, three feet deep, and its width that of a spade. The earth is thrown to one side, and after being used by a man, his deposit is covered by kicking some of this loose earth into the trench. The trenches are located on the flank opposite the mess tents, one to each company.

The fouling of a camp site is a very grave hygienic offense, both from the standpoint of the command occupying it, and from the fact that other commands may have to follow and use the same location for a camp.

Urine. The same general rules regarding the use of the latrine for defecation applies to urination. Under no circumstances when in camp during the day, does a man urinate except at the designated point. During the night it is the habit to place a can or two holding several gallons in each company street, and to have a red lantern burn by its side. Into these cans the men urinate at night. They are removed at reveille and the contents emptied into the latrine. The point at which they stood is sprinkled with crude oil or lime, and the cans having been emptied into the latrines are burned out, after which a small amount of crude oil is left in them.

Conclusion.

The teaching of personal hygiene to the officers and men in the field may be handled under the following headings:

1. Air.
2. Light.
3. Clothing.
4. Hat.
5. Shoes.
6. Feet.
7. Socks.
8. Bathing.

9. Hair and Beard.
 10. Teeth.
 11. Expectoration.
 12. Food and Water.
 13. Exercise.
 14. Cots and Ticks.
 15. Alcohol.
 16. Tobacco.
 17. Individualization of Canteens, etc.
 18. Sexual Hygiene.
 19. Feces and Urine.
- 104 S. Michigan avenue.

SUGGESTIONS FOR THE PREVENTION AND CONTROL OF VENEREAL DISEASES IN THE ARMY.*

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The story of a soldier's life during real war is one of changed destiny. Some men previously considered great become insignificant, others that have never been heard of, famous. A soldier's life might be divided into about five epochs and each period produces changed problems that must be met.

Period 1. Enlistment to time of departure to training camps.

Period 2. The first part of the time spent in training camps.

Period 3. The latter part of the time spent in training camps.

Period 4. Active service at or near the battle fields.

Period 5. Begins when peace negotiations are started and ends when the men are finally mustered out of service.

The dangerous time so far as venereal disease and venery are concerned, as I will show later, are periods three and five.

I believe that there is more venereal disease in our great army at the present time than figures disclose for many men are suffering more or less from venereal disease, but as this is the only sickness that is penalized, they only report their cases when urgent symptoms make it necessary or are accidentally found out. The above will apply at least to some cases.

Read at the Englewood branch of the Chicago Medical Society Tuesday, Feb. 5, 1918.

In time of peace most departments that have to do with war feel that their readiness and methods to cope with actual war problems and conditions are practically finished products and ready to meet the varied and diverse problems, such as are encountered when the call comes for mobilization for actual warfare. This feeling of security is general among nations and the departments that have to carry on the specific duties looking to the successful and proper execution and management of the war game. All nations in this great world war have had rude awakenings and shocks and many of their original war methods and plans have been shattered or altered, due to many reasons and causes. The medical departments are not to be excepted in the above general statement, for they too have changed ideas, ideals and plans to meet actual warfare, and are still uncertain in regard to some phases of their new and unforeseen problems that have suddenly appeared, and must be handled as best they can be.

When I enlisted in 1898 in the hospital corps of the First Illinois Volunteer Cavalry, and reached Springfield, I was fully imbued with the idea that all problems, present and future, had been carefully considered and covered. Doctor Senn had brought the surgical department of the Illinois National Guard up to a high standard of war efficiency. Our new field medicine chest, with all its new advantages and completeness, made me feel sorry for the poor soldiers that had been unfortunate enough to be in the hospitals during the Civil war, but I might guess now that the Civil war surgeons set out with all the assurance that we did in 1898.

We had handled our little epidemics of meningitis and other contagious diseases in a manner that gave us more than reassurance that we were prepared for any and all conditions that might arise. But when we were sent south and the soldiers encountered long and hard marches, partly undesirable and too much the same foods, burning hot sun and drenching rains, causing a lowered vitality in most of the troopers, we saw problems arising that we had not figured on. Typhoid and other maladies found us not fully prepared and we saw many things afterwards that we had not learned before hand. Our observations and experiences, good and bad, helped to change things for the better, that are today protecting the lives of our soldiers.

The medical department of the United States

Army is efficient, and I hope that every epidemic is not the cause of some advisory or investigation committee being created over night, for these things cause confusion and hasty changes that are not always for the best.

Venereal diseases have played havoc with armies from time immemorial. They have caused untold damage to the real fighting strength of nations in conflict, and it might be guessed that wars have been won or lost as a result of seriously handicapping the man power by their divitalizing and crippling effects. In the matter of venereal diseases we must make careful surveys, taking many salient facts into consideration in making conclusions and formulating lines of action that will be effective. Man is largely a sensual being—the control of his sexual instincts, desires and determinations must be made a matter of close and careful study.

A body of men are called on for military duty; they are sent to camps and are relieved of their ordinary home ties, such as wives, relatives and possibly sweethearts; they feel a peculiar desire to do things that they ordinarily do not do. It is with this class of healthy males that the commanding officers and surgeons have to try and devise ways and means to limit sexual activities. It is no easy problem to satisfactorily settle and at the same time satisfy every one.

When we carefully plan and attempt to execute a method that promises to largely prevent or greatly reduce indiscretions, we find that we are stepping on somebody's toes, and a protest is heard that sometimes refuses to subside. This protest may be from the officers themselves.

Regarding the examining boards that say whether a man is fit for military service or not—they have worked faithfully, honestly and hard, but in many cases they have made errors, for they must decide maladies in some cases that specialists should pass on and the surgeon-general has now ordered advisory boards for that purpose, which is a good move in the right direction. If I were on an examining board I would quite likely overlook a case of dementia præcox, for I would in all human probability fail to recognize it and so it might be that the other man would not be sure of a diseased seminal vesicle which I would probably recognize. Too much care cannot be taken in passing on a man's fitness for the service, for a man with latent focal infection makes a bad advertisement for the gen-

eral welfare and health conditions of the army. Many a soldier with deep-seated latent infection becomes a menace, because long marches and other strenuous work, such as is required of soldiers, causes a lowered vitality and resistance, and the man becomes an easy prey for deadly diseases and epidemics.

Latent venereal diseases are no exception to the above statement and they do untold damage by acute exacerbations due to divers causes and tend to spread by indirect methods. A man should be examined carefully for latent venereal diseases. Many men who are anxious to enlist will attempt to fool examiners unless they are on the alert. They will not urinate for several hours so as to be sure to have plenty of urine to wash all pus and shreds out of the urethra and wind up with a nice, clean glass to present to the examiner. That is along the lines employed by a man who is near-sighted and asked what eye chart was used. He said he had learned the letters so he could say them forward and backward. There are tricks to all trades.

Army life goes in cycles so to speak. The first cycle is that period of exciting expectancy when the first good-byes are said. Soldiers may or may not indulge mentally or physically in matters sensual at this time. Many girls will be injudicious, making or taking undesirable conditions. This period is of short duration and rather hard to cope with.

The men are sent to camps. Here is where the future welfare of the army gets a good start in the right direction. The men drill, and if in good physical and mental condition, enjoy the work. The army food, while plain, is good and fully enjoyed. Men work hard to become proficient and secure promotions and recognition. There are no girls or women to tempt them and their hard work and lack of sexual stimulus makes their ordinary sexual desires and thoughts appear diminished and it is at this stage that surgeons are constantly asked to quietly tell just how and where the saltpetre is being sifted in the food and drink. They never inquire as to whether it is really being done, but their feelings are such that they know it must be, but they can't tell whether it is in the coffee, salt or bread, and their curiosity impels them to seek information. This particular stage is a good place to lay good plans for the future welfare of the men for the

next turn of usual events will come unless safeguards are erected and prove effectual.

Many officers desire to have their wives and sweethearts see just how well they look and act at the head of a regiment, company or squad. The girls need but little coaxing to come, and in many cases they gently take the initiative and suggest a visit. The troopers have been doing fine in all ways. Presently there comes a number of attractive young women to see the novel attractions found in and about the camps. Skirts will be lifted as the fair ladies walk down troop streets so that they will not trip on ropes or gather dust. The troopers discover that the saltpetre has not entirely robbed them of sensual desires and they become anxious to seek ladies of their own in one way or another. I remember while at Chicamauga a matron of a southern seminary for young ladies brought them to visit our camp. The sexual stimulus that these girls set in motion could not have been subdued if we had had a carload of saltpetre. The men began to demand furloughs so they could visit houses of prostitution and others began to have nocturnal and diurnal emissions that did not help the health of the camp. I remember that one trooper became wildly delirious and the guardhouse would hardly hold him. Many women visitors loudly condemned the camp because of inadequate toilet facilities that were available for ladies. I hear the same cry at Rockford now. The experienced older army officers judiciously discourage women visitors as far as possible.

When I read in the paper some years ago that certain well meaning, but short-sighted bodies were having pretty actresses go to Joliet to entertain the prisoners, I thought of my army experiences along that line and felt that it was a dangerous experiment. I read soon after of the murder of the warden's wife. Sexual instincts are dangerous things to trifle with and the present suggestion of the army officers that all women visitors go to a Y. M. C. A. tent and meet the soldiers there in a decorous manner, should be commended. The rule should be religiously carried out and no exceptions made, for exceptions will cause dissatisfaction and disorder.

To keep the morale of the men at a good standard requires tact, good judgment and severe penalties.

Tact and good judgment are always good things

and if these can succeed they are of the greatest value. Many army officers have the very necessary faculty of being able to impress men of the dangers of doing certain things they should not do, and in this way keep their companies in good trim.

I have just received a letter from a young soldier whom I know who is in training at Camp Dodge, Iowa. He says, "We had a heart-to-heart talk from our new captain today. He gave us a good lecture on the lady subject, and told us that in his brother's company, now in France, thirty-five men killed themselves on account of diseases like syphilis, and he told us for God's sake keep away from them, and believe me, Doctor, I know a little about that and I sure will keep away from these diseases."

That captain will do much good in his way. He creates fear of venereal diseases, and my own belief is that honest fear is the best method to keep men in line. If they could have movies showing a man undergoing the agonizing torture and pain of locomotor ataxia, and a blind asylum's grewsome quota of syphilitics and a hospital ward full of helpless and partly incurable gonorrhoeal arthritis as well as a medical dispensary's usual display of phagedenic chancres and were told on another chart that fifty per cent. of women triflers were diseased and no surgeon could tell truly that they were not diseased, I think many soldiers would make a quiet little resolve to be extremely careful.

As to severe punishment to men who disobey, there might sooner or later be a strong and injurious resentment, or men would not report disease for fear of penalties and in this way become seriously sick by neglect or improper treatment. However, as things stand today, it seems that this measure is justifiable and necessary and serving a good purpose.

In the period where the men become over-anxious to indulge in sexual orgies, they oft-times lose good judgment and forget almost everything excepting their sexual appetite. I have seen men get in touch with a girl in some manner or another and as many as fifteen or twenty slip out a side line at camp, one at a time, and indulge in a dangerous seance. On one occasion there was a girl, evidently mentally defective, who had been mistreated by a number of soldiers almost the entire night, and at four

a. m. she was in a comatose condition. This circumstance did not occur in my own regiment, but in a regiment that was camped next to us. Such occurrences as these have put army surgeons and officers on their guard and much better conditions may be expected during this war.

In this free country radical moves have to be made carefully and with the moral backing of a majority of the people. It will be a great day when a rule can be made and backed up that will exclude all women from the soldiers in camp, excepting properly dressed graduate nurses, sisters of mercy, or mothers, sisters or wives of men dangerously sick in hospitals.

The next stage in army life, namely, the firing line, needs but little protective efforts to keep the women at a distance, but even here we hear of occasional unlooked-for circumstances that seem incredible. So the eagle eye must still be working, expecting occasionally to detect a girl dressed as a boy, or hiding in one of the empty cannons. The army life is almost as alluring to women as men, and sometimes women do not recognize the word—Fear.

The last stage of army life during war is, in my opinion, the most gravely dangerous period so far as discipline and morals are concerned. No more fighting—organized bodies of soldiers who have trained hard, learning that they are not going to see a battle front, become peculiarly restless and indifferent. No more chance to become generals or heroes; they lose their military poise and change tactics. They sometimes forget their previous good resolves and seek undesirable chances. If they should be in France they might feel that they would never quite be satisfied afterwards if they did not take one little flier into the world-famed sensual supreme zones that are listed there. If in other localities they might anticipate a little visit to the often described beautiful creoles, etc. Other undesirable pastimes might be thought of. I only hope the army officers can cope with this stage as well as they have apparently done in stages now at hand. To prevent breaks of discipline in the last stage requires much genius. It is in this stage that officers who have been unpopular have all manner of abuse to contend with. They are sometimes assaulted or cannon wheels sent through their tents. Privates supposed to be shirkers are not to be envied. I have seen the above described conditions. But—some way we feel that this war

is going to be handled so carefully that many undesirable things seen in other wars will be sidestepped.

I have given the army life as I have seen it. I am probably mistaken in some of my observations and conclusions, but in a main way I have tried to give suggestions for thought in the matter of curtailing venery and venereal diseases.

My firm belief is that fear should be strongly implanted in the soldier's minds, for fear will control venery when moral suasion or conscience fail to conquer.

Regarding the curing or aborting or preventing of venereal diseases I can't agree in some of the methods and suggestions that the advisory board have formulated and put in book form.

Venereal diseases are hard to cure or abort at best, and I do not feel that a little discussion on these important subjects will be misinterpreted. It is easy and sometimes cowardly to criticise, but in the matter of venereal diseases it is a debatable subject and one that is far from satisfactorily settled by any one.

Most suggestions brought forth by the board are applicable and satisfactory. Others might be honestly questioned. In the matter of prevention of venereal disease there is no prophylactic agent like the copious use of soapsuds and a soft lather at that. I think the board should have gone into a little more detail regarding this important maneuver, for nine men out of ten just told to use soapsuds will do it superficially or carelessly. I think army surgeons should get a cake of the right kind of soap and show the men how to get a copious and effective soapsuds that will remove tenacious mucus such as is deposited on the different parts of the penis after intercourse with a woman who has venereal disease, for it is this tenacious mucus that the spirochetes or gonococci are strongly entrenched and will adhere, notwithstanding applications of various germicides; and the only method of annihilating the mucus and its hosts is to remove it carefully and effectively by washing and rewashing with a good soft lather and rinsing off with water. Then antiseptics can be applied. I personally prefer ether, for it is active and penetrating and burns but a minute. Do we think how seldom a barber transmits disease with his razor? I am convinced that the soapsuds he employs kills the disease germs with no uncertain accuracy.

Many patients coming to my office when told to wash the penis carefully will do a sort of a half-hearted two-finger sortie with the soap and accomplish little or nothing. I take the cake of Grandpa's tar soap and with running water and both hands produce a lather that means effective cleanliness and sterilization. I always instruct the patient to rinse off all the soapsuds and if he has a foreskin to be sure and pull it down in place with a quick move.

Another point. In the treating of so-called chancroids, the advisory board in certain cases suggests cauterization. I find the less I cauterize the better results I obtain. Soapsuds and ether again seem to be serviceable along with an intravenous injection of diarsonal, in advancing or persistent cases.

In the treatment of syphilis the board recommends intramuscular injections of salicylate of mercury as probably the best mercurial preparation to use.

I can't possibly understand why insoluble mercurials be advised rather than soluble preparations such as bichloride or benzoate in large doses. The United States army surgeons themselves, after careful and persistent treatment of a large number of cases of syphilis in all stages, and after a long course of treatment, came to the conclusion that their results were very unsatisfactory, and if I remember only a very few cases in a large number treated were cured.

These tests were made at Fort Leavenworth by most competent men and these results should be considered when it comes to such an important matter as curing syphilis.

The salicylate of mercury injected into the gluteal muscles is very slowly absorbed and the average time of complete absorption is fifty days. The spirochetes by this slow absorption often become so-called mercury-fast and do not decrease in numbers as we might expect. They may even increase in numbers and resisting qualities. Another factor is that the slow absorption may cause focal disturbances of the kidney or gastro-intestinal tract, thus producing a lowered vitality and all sorts of undesirable conditions.

Sodium-cacodylate is another undesirable and unsatisfactory specific treatment that should be discarded.

It will not cure syphilis or at least only a small percentage of cases.

We are doing our syphilitic patients an injustice unless we seek to quickly and forever eradicate the terrible disease from his body. I candidly believe that soluble mercury is the only method that will, in a large majority of cases, give us a permanent cure. The French army are very largely employing large intramuscular doses of benzoate of mercury and their results have been most rapid and effective. In a recent issue of the *Journal A. M. A.* Bory reports successful and rapid treatment of twelve hundred cases of syphilis in his service in a French hospital by use of benzoate of mercury in large doses.

Soluble mercury injected in the gluteal muscles is entirely absorbed and completely eliminated in forty-eight hours and our next dose can be administered at that time without getting the peculiarly toxic accumulative effects observed in the repeated injections of insoluble salts of mercury.

The more I treat syphilis with benzoate of mercury the less I value any other therapy not excepting salvarsan and its good substitutes. They will clear up a mucous patch or skin eruption but I have lost faith their being able to eradicate the spirillum pallidum in a permanent manner. The comparative and extensive work done by Lloyd Thompson of Hot Springs, should be convincing of the important value of benzoate of mercury. In my own experience not one case in thirty of early syphilis treated constantly and persistently for fifteen weeks has shown a recurrence after one, two or three years without further specific treatment.

I have secured apparently permanent cures in many cases where salicylate of mercury, grey oil and calomel injections have been energetically used over considerable periods of time without checking the disease except for short periods of time.

My small contentions, or rather suggestions are not intended for the medical department of the United States Army for it has made almost unbelievably rapid strides in efficiency in the past few years.

My suggestions are based on reports made by the Board of Civilian Genito-Urinary Surgeons appointed for that purpose.

THE IMPORTANCE OF EARLY AND EFFICIENT DOSES OF ANTITOXIN IN DIPHTHERIA.

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Von Behring's diphtheria antitoxin was first used on patients in von Bergmann's clinic in 1891, more than a quarter of a century ago, though not until Roux addressed the Eighth International Congress of Hygiene and Demography at Budapest in September of 1893, did its use become general. At that time Roux described in the most exact manner every detail of its production and use and thus placed its value upon a firm foundation. In this remarkable paper he reported 300 cases and showed by analysis of various statistics the great worth of the serum.

That during this time antitoxin has amply proved its value in diphtheria is not open to discussion. Analysis of the combined mortality figures of preserum times as compared with those since 1894 plainly indicate its merit, there having been a reduction from approximately 50 per cent. to 15 per cent. or even lower. In diphtheria antitoxin we possess the one indubitably successful curative serum, the effect of which is settled beyond question.

Despite the fact that we have had at our command for so many years a remedy of such direct specific action, it seems odd that the death rate for diphtheria should be greater than would result from errors in diagnosis and from other inevitable incidents. That the number dying from the disease is still unnecessarily great, a cursory examination of recent mortality rates will show. In Chicago for the years 1915-16-17 the death rate was 11 per cent. of the reported cases, while in the eight principal cities of the United States it ranged per 100,000 of population from 10.52 in Baltimore to 31.51 in Chicago. Though antitoxin has saved probably 250,000 lives annually, yet diphtheria still causes more deaths than whooping cough, measles or scarlet fever, the average number of fatal cases being 17,000 annually. Thus we have every justification for believing that the toll demanded by this disease is still needlessly high.

Allowing for the unavoidable errors which will always occur, it must be possible to reduce the

death rate to a figure very much lower than the present level. From the evidence at hand, one concludes that this is to be accomplished through two principal channels: education of the public and education of the medical attendants to better methods of diagnosis and to a more advantageous application of the specific which we possess. That there is need of such education we shall presently endeavor to show.

Our knowledge of the mode of production and the action of diphtheria toxin and its neutralization by antitoxin is fairly definite. The toxin is elaborated by organisms in the membrane, chiefly, and absorbed into the circulating blood at the point of infection. Through the blood stream it reaches those cells for which it has an especial affinity and remains, probably for a short time only, in loose combination with them, dissociation presumably being impossible after the lapse of two or three days. The first action of antitoxin is to unite with the toxin being absorbed at the point of production and with that still free in the blood stream. The greater the amount of antitoxin present the more rapidly will the latter occur. Aided by greater concentration the antitoxin finds its way into the tissue fluids where it attacks the combined toxin, but in order to separate the latter from the cell, it is probably necessary for the antitoxin also to attach itself to the cell, and that this may occur, the concentration in the blood, as Berghaus has shown, must be great. Once the union between toxin and tissue is fixed, the presence of antitoxin is powerless to dissociate them and consequently treatment is of no avail. From this it is seen that the effective time of antitoxin action is limited to a few days, that the rapidity and efficiency of its action is in direct proportion to its concentration, and that it is important to give enough antitoxin before a fatal dose of toxin shall be absorbed.

Having shown from a theoretical standpoint the urgency of administering antitoxin at the earliest possible moment, the importance of timely diagnosis is easily to be seen. In analyzing a series of fatal cases, next to the delay in calling a physician, one was impressed by the slowness with which a diagnosis was made. Few conditions admit of so little delay in recognition as does diphtheria, and when a physician accepts the care of a real or suspected case of this disease, it becomes his solemn duty to leave no act undone

which could aid in determining a diagnosis at the earliest possible moment and in obtaining for the patient the benefits of antitoxin, despite monetary considerations or the demands of expediency.

If the circumstances are such that a quick bacteriological diagnosis cannot be obtained, it is better to give antitoxin without delay. Within the last few years the Boston Board of Health passed resolutions advising that all undoubted or suspected cases of diphtheria be given antitoxin without waiting for bacteriological confirmation. Hitchcock goes so far as to say that in his opinion any case which is clinically suspicious enough to warrant taking a culture is suspicious enough to warrant giving antitoxin without waiting to hear from the laboratory. Knowing how fatal delay is, such a recommendation cannot lightly go unheeded.

In suspected laryngeal diphtheria liberty of action is still further restricted. Now early recognition is even more imperatively demanded, and unfortunately will not wait upon the result of culture. The direct smear is frequently negative and consequently the diagnosis must usually rest upon clinical findings. The Boston Department of Health advises that all cases of croupy breathing in children which continue for more than six hours shall be considered as diphtheritic regardless of other clinical signs or the results of bacteriological examination. Undoubtedly, operative measures would be greatly reduced in frequency if all cases of croup which did not respond to treatment within two or three hours were given immediately a sufficient amount of antitoxin.

Many figures have been published which show the relative effects of early and late injections of antitoxin upon the mortality rate of diphtheria. Tabulations of the various statistics presented by observers all over the world, comprising nearly 100,000 cases, show that the death rate rises with delay in giving antitoxin from an average of 3.80 per cent. on the first day to 24.6 per cent. on the fifth day.

Experimental proof substantiates statistical evidence as to the value of early injections. The sooner the administration of antitoxin follows a lethal injection of toxin in the guinea pig, the smaller the amount of antitoxin needed to neutralize the toxin. The observations of Schick and his co-workers show that the main effect of anti-

toxin is an immunizing action, the proper dose producing immunity to later injections of toxin. But this action is not retroactive, that is, it has but slight effect upon toxin given earlier. Veeder has confirmed this work, finding that Schick's test made at the same time or previous to a subcutaneous injection were not suppressed, but tests made three hours after injection did not develop. Even after intravenous administration a test made six hours previously was positive and four hours before still faint. The principal action of antitoxin then is to protect against toxin produced after the antitoxin has been given. The clinical significance of this is to point out the need of the administration of antitoxin at the earliest possible moment. It is essential also to obtain the maximum degree of concentration in the shortest possible time, as degree of concentration and not total amount measures the curative effect of serum.

Clinical experience bears out the experimental proof. Thus Kiefer of Detroit reports no deaths among those receiving serum on or before the third day. Place states that of 431 cases of diphtheria developing in the Boston City Hospital, not one death occurred, nor was a single intubation required, though many were laryngeal affections. The writer observed a series of approximately 100 cases developing as a crossed infection, with 100 per cent. recoveries. Place further observed that early administration of antitoxin is of the greatest value in preventing the necessity of intubation and in checking the progress of the disease after introduction of a tube. He reports 119 consecutive cases, of which 47 per cent. escaped intubation despite a firm belief in early operation.

During 1917 there were reported in the City of Chicago 10,290 cases of diphtheria, of which 1,216 died, a mortality of approximately 11 per cent. Analysis of the circumstances of each of 75 of these deaths disclosed that 40 per cent. of them resulted from failure to call a physician sufficiently early; that 36 per cent. were due to obvious delay on the part of the latter in making a diagnosis; that 16 per cent. were the consequence of insufficient amounts of antitoxin, 52 per cent. in all due to error on the part of the physician; while the remaining 8 per cent. were apparently not preventable. Twenty-five per cent. of these dead children had a physician in

attendance on the first day; 44 per cent. by the second day, and 66 per cent. by the third day, yet only 7½ per cent. were given antitoxin on the first day, no more than 16 per cent. had received it by the second day, and only 40 per cent. by the third day. In other words, of 50 children ill of diphtheria, at whose bedsides a physician was in attendance, 20 were allowed to go into the fourth day of the disease without antitoxin, and yet it has been a matter of common professional knowledge for many years that on the third day of diphtheria without antitoxin, nearly three times as many die as when serum is given on the first day. The average initial dose of antitoxin in these 75 cases was 7,300 units, four receiving none, two receiving 1,000, four 3,000, one 4,000, twenty-one 5,000, sixteen 10,000, and seven between 15,000 and 20,000 units.

The question of what constitutes the proper dose of serum in the treatment of diphtheria is still a matter of discussion. In 1894 Wm. H. Park advised quantities ranging from 800 to 2,000 units, stating that if no benefit was to be obtained from that dosage, it was doubtful if larger quantities would do more. Since then ideas have changed, but there is still a lack of unanimity of opinion, and especially a lack of appreciation of the mechanism of toxin action and neutralization. The object of giving serum is to neutralize toxin and to displace if possible that which has already united with the tissues. There is no way, however, in which the needed amount can be determined theoretically, in any given case, other than by applying the experimental results obtained by Schick, who found it necessary to calculate the dose of antitoxin according to the body weight. When amounts of antitoxin equal to 50 units per kilogram of weight were given, the protective effects of antitoxin on toxin injected simultaneously and on that injected 24 hours later was demonstrable, but not satisfactory. If the dose was increased to 100 units per kilogram, the immunizing action was very much greater, toxin reactions made 24 hours later usually being completely suppressed, while simultaneous tests were also somewhat subdued. Further observations showed that a maximal antitoxin effect is to be obtained from a dosage of 500 units per kilogram, larger amounts having no greater influence either on simultaneously or subsequently injected toxin. Retroactive effects of 500 units

of toxin injected three hours earlier is very slight and only little better than when doses of 100 units are given. If these conclusions are correct, a firm basis has been established for calculating the necessary dose.

Park also believes that weight is a great factor in influencing the dose. He found experimentally that if two children, one twice the size of the other, are given the same amount of antitoxin, the larger child will have about one-half as much antitoxin in each cubic centimeter of circulating blood as will the smaller child. As concentration is the important factor and not the total amount given, the size of the patient is of great importance in deciding the proper dose. Veeder, on the other hand, believes attempts to base the dose upon the body weight are fundamentally wrong. He is persuaded that two children of the same weight may absorb entirely different amounts of antitoxin or that the antitoxin absorbed may be of different potency.

Park found that most cases of diphtheria which enter the hospital already had blood which was feebly antitoxic, and thus antitoxin is not to be given with the idea that it is particularly necessary in order to neutralize toxin in the blood, but because it is necessary to get it quickly to the tissues. Unfortunately it passes only slowly from the blood to the cells, but large doses aid in more rapidly expediting its progress. Within 24 hours after a sufficient dose of antitoxin there is probably no free toxin left in the body except in the structures at the site of production.

The value of second injections must be considered. The consensus of opinion is that they are of no avail, as the concentration of the serum in the blood is increased too late to be of service. In view of the slowness with which antitoxin passes from the blood to the tissues and the need of great concentration in order to influence the already combined toxin, it is important that enough serum be given at the first dose. If the work of Schick is accepted, there should seldom be any question of a second dose. The only opportunity for error would lie in wrongly estimating the severity of the case in the beginning.

Park experimented to ascertain the advantage of the single dose. One goat was given 15,000 units in one injection, the other 5,000 units in three doses at eight-hour intervals. At the end of 18 hours the first goat had 12 units per cubic

centimeter of blood and the second 3½ units, only the first portion having had any chance of being absorbed. Not until the end of the third day did 20,000 units in divided doses equal the effect of 15,000 units given at once. The good effects apparently to be attributed to second and third doses are the result of further absorption of the first dose.

In practice most men aim to give a sufficient dose at the first injection. Actually, however, the slow rate of absorption of antitoxin when given subcutaneously with the resulting delay in improvement of the patient, prompts many to repeat the dose because of fear that too small an amount was given at the outset. A needed second dose means that an insufficient quantity was given at the first dose, and this should not happen. However, if there is doubt of the sufficiency of the first injection, do not wait too long before repeating.

Very large quantities of antitoxin are advocated by a number of observers whose extended experience compels respect. Others do not agree on the advantages of extremely large doses. In order to ascertain the trend of authoritative modern practice in this respect, a questionnaire was sent to leading pediatricists and others with large experience in treating diphtheria.

Generally speaking, the largest number thought a dose ranging from 20,000 to 30,000 units to be sufficient, with 50,000 units as possibly the upper limit of usefulness. Two thought that enormous doses, up to 200,000 units, were of distinct advantage in the severest cases. All but one were guided in their estimation of the proper dosage by the amount of membrane and the degree of toxemia, while 75 per cent. considered to some extent the day of the disease. Comparatively few paid any attention to weight, and then, with three exceptions, only in a general way. Some were guided by other factors, the site of the membrane, the amount of local edema, and in several instances by the responses to treatment. Three out of every four thought the serum should be given in one dose. Veeder believes 25,000 units to be more than is necessary in any case. Wm. H. Park states it as his belief that 40,000 units will cure any case that a million will. Cowie regards 30,000 as more than enough in any instance.

In our experience a safe rule to follow has been that based upon severity and weight. One

estimates how ill the child is and then administers a dose ranging from 45 to 225 units per pound of weight. If any error is to be made it should be that of overestimating the severity. Generally speaking, the dose should be high rather than low. No harm can be done by giving an unnecessarily large dose and cost should be no bar. Apropos of the latter, in 1914, Kinyoun stated that using the newer methods of refinement and concentration, the cost averaged between $6\frac{1}{2}$ and $8\frac{1}{4}$ cents for each 1,000 units.

As was previously shown, there has been a marked reduction in the mortality of diphtheria merely through the use of antitoxin, no matter how small the dose. We have seen that early injection and the use of the proper quantity have the greatest effect upon lowering the death rate, but still better results may be obtained by a more advantageous method of giving the specific. Especially in hospital practice, where the average day of admission is comparatively late, does the method of administration become of great moment. The method of choice, generally, is still the subcutaneous route, but the intramuscular and intravenous methods have attained popularity during the past few years and seem to offer advantages over the old method.

Morgenroth first demonstrated by experimental means the comparative rates of absorption by the different methods. He found that while the concentration in the blood was greatest after intravenous injection, within eight hours it began to diminish, whereas after intramuscular injection, at the end of eight hours, the content of the blood was nearly as great as after intravenous administration. Five hours after intramuscular injection the concentration was 5 to 20 times greater than after subcutaneous administration. Comparing the antitoxic content of the blood after subcutaneous and intravenous injection, Park found that in three hours there was, after the former, one unit of antitoxin and after the latter, 85 units; in twelve hours the quantities were 5 and 70, respectively, and only at the end of the third day were they equal, namely, 25 units in each cubic centimeter of blood. He estimates that the intravenous method gives at least tenfold the effect that may be expected from the subcutaneous method.

Intramuscular injections were first given in Neisser's clinic in Stettin, and in England have

supplanted other methods almost completely. Rolleston claims that it is as simple as the subcutaneous method, less painful and that the serum is more rapidly absorbed. Compared with the intravenous method, it is superior because of its simpler technic and because it is less rapidly excreted. At the County Hospital it has also become the routine method of administration.

As indicated by the questionnaire, of all the replies received, two alone favor the subcutaneous route. Most of the others believe intramuscular administration probably the best as a routine measure. Some have had unfortunate experiences which would cause them to use the intravenous method in selected cases only, but all agree that it is indicated in the severely ill. About an equal number find difficulties of administration and the danger of shock deterrent except in unusual cases. Three men find no objection to the method, although believing it not always necessary, while one alone thinks that it will eventually be the routine method of administration.

From theoretical considerations we must regard as best the simultaneous intravenous and intramuscular injections, but from a practical standpoint the intramuscular method answers the purpose and is almost as efficient clinically. In septic and laryngeal cases better results are to be had with the intravenous method, though the technic is not always easy.

Fear of anaphylaxis should not have a dissuasive effect upon the administration of antitoxin in any case of diphtheria, nor should it prevent giving a sufficiently large dose. There has never been a death from serum at the Willard Parker Hospital nor among 40,000 cases at the Boston City Hospital. Park states that a large primary injection taken safely insures against fatal results from any subsequent injection.

Concerning the relationship between serum administration and the occurrence of post-diphtheritic paralysis, there is both experimental and clinical evidence to prove that the early use of antitoxin is the most important factor in preventing the occurrence of this complication. Rosenau and Anderson showed that antitoxin cannot influence paralysis if given just before the appearance of the latter, but if given 24 hours after infection, it saved life and greatly modified the resulting palsy, while if given 24 hours before or at the time of infection, a very small quantity prevented the development of the complication.

Rolleston presented figures showing that if serum was given on the first day of the disease, only 3.6 per cent. developed paralysis, but if it was delayed until the sixth day, in 27.1 per cent. paralysis appeared. The occurrence of paralysis after intramuscular injection seems to be much less common than after subcutaneous administration. Of 261 cases injected in the muscles only 12.6 per cent. showed paralysis, but two being severe and one fatal. This is an excellent record as compared with 2,300 cases injected subcutaneously, of which 20.7 per cent. became paralyzed, with 181 severe and 85 fatal cases.

CONCLUSIONS.

Consideration of the theoretical aspects of the question, together with the experimental, statistical and clinical evidence submitted, leads one to regard the following conclusions concerning the use of serum to be justified:

1. That the need of early diagnosis is more urgent in diphtheria than in almost any other condition.

2. That antitoxin should be administered at the earliest possible moment, in both known and suspected diphtheria, without too much loss of time waiting upon cultural confirmation.

3. That in any case a minimum of 5,000 to 10,000 units should be given, no matter how mild the case, but that under any circumstances 25,000 to 50,000 units is the largest dose from which benefit may be expected. The dosage should be based upon a consideration of the severity of the attack and the weight of the child.

4. That sufficient antitoxin for the entire course of the disease should be given in one dose.

5. That in the usual case of moderate severity the intramuscular route is the method of choice.

6. That in septic and laryngeal cases antitoxin should be given intravenously.

REFERENCES.

1. Crum: Am. J. Pub. Health, 1917, 7, 445.
2. Berghaus: Centralb. f. Bacteriol., 1908, 48, 450; 1909, 49, 281; 1909, 50, 87.
3. Hitchcock: Bost. M. & S. J., 1916, 175, 718.
4. Schick, Kassowitz and Bussacchi: Ztschr. f. d. ges. exper. Med., 1914, 4, 83.
5. Veeder: J. Missouri Med. Assn., 1915, 12, 145.
6. Kiefer: Jour. Am. Med. Assn., 1914, 63, 863.
7. Place: Bost. M. & S. J., 1912, 167, 393.
8. Park: Ibid. 1895, 133, 255.
9. Place: Prov. M. J., 1913, 14, 181.
10. Park: Bost. M. & S. J., 1913, 168, 73.
11. Park: Ibid. 1916, 175, 721.
12. Park: Jour. Am. Med. Assn., 1914, 63, 863.
13. Kinyoun: Jour. Am. Med. Assn., 1914, 63, 862.
14. Morgenroth: Berl. klin. Wchnschr., 1907, 44, 1394.
15. Park: Am. J. Ohstet., 1913, 67, 1047.
16. Rolleston and Macleod: Brit. J. Child. Dis., 1914, 11, 289.
17. Rolleston: Arch. Pediat., 1913, 30, 335.
18. Dupaquier: N. Orl. M. & S. J., 1915, 68, 145.
19. Rosenau and Anderson: Tr. Assn. Am. Phys., 1907, 22, 26.

EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH.

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The early diagnosis of carcinoma of the stomach is of the greatest importance because if proper surgical intervention is undertaken at this stage it will not only save the lives of patients in most cases, but also no recurrence of the affection will take place. An early diagnosis is not frequently made because of the very insidious onset of the disease and the disturbance is of such a mild character that the patient does not seek relief, or the disease may be diagnosed as one of the milder affections of the stomach.

Aids in the early diagnosis are: 1, a good history of the patient; 2, thorough physical examination; 3, chemical analysis as to the secretory functions of the stomach and also testing the motility; 4, examination of the stools for occult blood; 5, roentgenography; 6, the Abderhalden test, and 7, exploratory laparotomy.

1. *History.* In most instances the patient has reached middle life; he may give a history of repeated attacks of disturbance of the stomach which could be interpreted as ulcer. In other instances the patient may have had no stomach disturbance at all until the last two months or less, when he may have had a slight distress for which he could not account. Vomiting is very rare, but there seems to be a loss of appetite; a mild degree of distress after eating, and slight malaise. There may or may not be some loss of weight. There is no cachexia present. The family history does not assist much in the diagnosis. We certainly do not lay a great deal of stress on the statement that there has been cancer in any of the members of the family.

2. *Physical Examination.* As in all other instances, we must make a thorough physical examination of the patient; an examination of the respiratory system, the circulatory system, the nervous system, the glandular system, and a thorough abdominal examination. In many instances the findings from these examinations may be of a negative character. The abdominal examination may disclose a gastroptosis, an enlarged liver, or a movable kidney, which do not assist us in any way, but we may be able to elicit by deep palpation some tenderness in the region

of the pylorus, which is important, as in many instances it is the seat of the affection, or there may be some tenderness elicited just to the right of the ensiform process if the seat is on the smaller curvature near the cardia.

3. *Chemical Analysis of the Stomach.* In the chemical analysis of the stomach contents after an Ewald test breakfast the findings vary. There may be a hyperacidity which we find mostly in carcinoma following ulcer, or a normal acidity. We may find a subacidity. Very rarely I think we find an achylia. We find occult blood present. There is no retention of food except there be at the same time a hypertrophic stenosis of the pylorus from other concomitant causes or adhesions pulling so as to obstruct the outflow. To make a motility test, we use the Riegel test dinner, of which there must not be anything left on washing out the stomach five hours after ingestion.

4. *Examination of the Stools for Occult Blood.* Now, we come to an examination on which we must lay the greatest stress, namely, the finding of occult blood in the stools. This analysis ought to be made every day over a period of about one week, and the findings must be positive on each examination. On account of the great importance of the finding of occult blood in the stools in this affection, I shall go a little more into detail as to the chemical analysis.

I give my patient a good cathartic, then put the patient on a meat free diet. No meat soups or anything of that kind are given. Also in cleansing the teeth patient is instructed not to use a brush, but only a rag, as by brushing the teeth the gums may bleed, and the patient may swallow some of the blood and we might get a reaction from this and be misled. Certainly, the patient should take no medicine of any kind during examination. After three days the patient brings the specimen of stool, and continues to bring specimens every day for a period of a week. I have found that the Benzidine test is the most satisfactory, and I use it exclusively. We also have tablets on the market that are said to be very good. I have never used these tablets, and in a matter of such importance I prefer to make my own solution, no matter how good the manufactured tablet may be. The test can be made within five or ten minutes. If we have carcinoma present, we will find occult blood in every analysis of every stool. Certainly, we must be able to ex-

clude any other source for the blood in the stool.

5. *Roentgenography.* When roentgenography shows a picture typical of carcinoma by the bismuth shadow thrown, then it is not an early diagnosis. If an obstruction at the pylorus is present to such an extent as to retard the outflow of the stomach contents, it is not due to the beginning carcinoma, if present, but due to concomitant causes. If carcinoma on the smaller curvature near the cardia exists, it fails also; therefore roentgenography cannot assist us, no matter how much it may aid us in making a diagnosis in some other gastric affections. My belief is that it cannot aid us materially, if it can do so at all, in the early diagnosis of carcinoma of the stomach.

6. *The Aberhalden Test.* The Aberhalden theory is, that there are ferments in the blood plasma which are of a defensive character and will build off the tissue, which is the cause of these defensive elements. The organism, as a whole, permits only such elements in the circulation as are good for it. Aberhalden has proven that in early pregnancy defensive ferments are present in the blood plasma which will build off the placenta.

As to carcinoma, Aberhalden has also proven that there are defensive ferments present which will build off carcinoma, but these ferments will not build off the placenta, and that ferments present in pregnancy will not build off carcinoma. Furthermore, the defensive ferments present in a cylindrical cell carcinoma will not build off flat epithelial cell carcinoma. The method is quite complicated, and on that account failures possibly have occurred which may have been due to some faulty technic, or any other oversight on the part of the analyzer. I have not used the method at all, consequently I am not able to give you my views on it, although I am inclined to believe that this method, by simplifying the process, may in the future be of the greatest assistance in the early diagnosis of carcinoma. The method fails in carcinoma when there is marked cachexia; it also fails when there is high leucocytosis.

7. *Exploratory Laparotomy.* As to the exploratory operation, we ought to use every means at hand which will help in making a complete diagnosis, and if there should be cases in which a doubt seems to exist, I think we are justified

under the modern surgical procedure to have recourse to an exploratory incision.

There are a few other methods which have been tried and found not to aid us very much in the early diagnosis of carcinoma. I shall mention, first, the glycytryptophan test (Fisher & Naubauer). The hypothesis is that there are in the stomach contents in carcinoma ferments present which split up the glycytryptophan, but glycytryptophan is also split up in other affections, like achylia gastrica. Blood and also trypsin, which are very often present in the stomach contents when there is no carcinoma, will likewise split it up. Second, Solomon's test. This test is to find albumin present in the emptied stomach by lavage with water and the Esbach's method to determine the albumin present. In the early diagnosis this test does not assist us either. Third, Salcowaski's test. This is a test for colloidal nitrogen in the urine. In carcinoma the urine contains a high percentage of this nitrogen. Other affections, like pernicious anemia, diabetes mellitus, and chronic myocarditis will also give a high percentage of colloidal nitrogen; therefore, it is not of much aid. So we may say that at the present time the most reliable aids in the diagnosis of beginning carcinoma are a good history, a thorough examination of the patient, and most important of all, the occult blood findings in the stool as I have already stated.

Gastroscoy has been tried by the aid of very ingenious instruments, but I fail to see how we are able to detect a small affection near the pylorus, as we cannot manipulate the tube to such a great extent as to get a good view of the pylorus.

REPORT OF CASES.

Case 1. Patient, Charles M. (Polish), aged 42 years; occupation, janitor. Patient came to my clinic in October, 1915, complaining of stomach disturbance. A diagnosis of gastric ulcer was made and patient was put on a proper diet. Patient felt well for about four months, when he presented himself again in February, 1917, with complaint of stomach disturbance, which seemed to be a recurrence of the ulcer. The analysis of stomach contents after Ewald test shows:

Free Hcl. 52
Total Ac. 85

Patient was put on proper diet again, with no results. Upon questioning the patient closely as to whether he had followed the diet strictly which had been given him the year before in October, he said yes, but he always had a disturbance after eating the mustard. He had mistaken the word custard

and had used mustard, which was not included in the diet.

Patient was sent to the hospital and a bland diet given. A stool examination was made for a period of about one week and occult blood was found on each analysis. I made a diagnosis of beginning carcinoma, and advised operation, which was performed by Dr. Norman Kerr. Pylorectomy and gastrojejunostomy were done, and a callous ulcer, with a nodule the size of a small pea, was found near the pylorus, and a slight infiltration of the pyloric orifice. Patient made a protracted recovery.

Upon histologic examination of the specimen, it was found to be carcinoma of the medullary form.

Patient has gained about 25 pounds, and is feeling well one year and ten months after the operation.

Case 2. August W. K., Peoria, Illinois; 66 years old; cashier, referred to me by Dr. Norman Kerr.

Past History. Patient had typhoid 14 years ago. Four years ago he had stomach trouble which recurred at intervals up to the present time. Patient now has a dull, aching, distressed feeling after meals, which lasts for about two hours. Belching relieves it. Patient does not vomit; he has lost about 15 pounds in the last year.

Examination reveals a very small aneurysm of the subclavian and abdominal aorta; also gastroptosis. On abdominal palpation slight tenderness is found in the region of the pylorus. Chemical analysis of the stomach contents after Ewald test breakfast showed normal acidity, and occult blood present. In examining the stool for occult blood I found it present at each analysis for a period of a week. Roentgenography negative; also no retention of bismuth meal after 6 hours. One Riegel test dinner (motility test) reveals a slight retention.

A clinical diagnosis of beginning carcinoma at the pylorus was made, and operation advised and performed by Dr. Norman Kerr under local anesthesia. Pylorectomy and gastrojejunostomy were done. The diagnosis of carcinoma was verified by the operation. The carcinoma was about the size of a small pea on the pylorus, with slight pyloric infiltration. In this case the diagnosis was based only on the history of the patient, slight tenderness in the pyloric region, and above all, the occult blood findings in the stools as aforesaid.

Histological examination shows a round cell carcinoma. Patient left the hospital two weeks after the operation, is feeling well, and has gained about 20 pounds in weight.

In conclusion, let me say that in every individual above 40 years of age, with digestive disturbances, no diagnosis should be made until carcinoma is excluded; then I believe that with the diagnostic aids I have enumerated we may be able to make a diagnosis of carcinoma in its early stage, if present.

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THE MUCH NEGLECTED VERU MONTANUM.

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The veru montanum or as it is called the colliculus seminalis or caput gallinaginis, is situated on the floor of the prostatic urethra. On each side of the veru is a slight depressed fossa, the floor of which is perforated by numerous apertures, the orifices of the prostatic ducts from the lateral lobes of the gland. The ducts of the middle lobe open behind the veru. At the forepart of the veru in the center is a depression, the prostatic utricle or sinus pocularis and upon or within its margins are the slit-like openings of the ejaculatory ducts. The sinus pocularis forms a cul-de-sac about 1/4 inch in length which runs upwards and backwards in the substance of the prostate behind the posterior commissure, a band of tissue which joins the lateral lobes behind the posterior wall of the urethra. The prostatic utricle represents the remains of the Muellerian duct and consists of a blind sac with folded mucous membrane lined with a two rowed ciliated epithelium which dips down to form short tubular glands. The veru montanum is provided with many blood vessels the same being derived from the internal pudic, inferior vesical and middle hemorrhoidal. The nerves are derived from the hypogastric plexus.

The foundation of the veru consists chiefly of connective tissue, elastic fibres and a few non-striated muscle fibres, while its glandular supply is quite rich and the cavernous tissue is rather scant.



No. 4

No. 5

No. 6

No. 4. Hard infiltration of the colliculus.
No. 5. Soft infiltration of mucosa caused by chronic gonorrhoea.
No. 6. Considerable hard infiltration of mucosa of deep urethra.

The relation of the diseases of this small organ to a variety of symptoms of functional urinary disturbances, of impaired sexual activity, of a number of remote reflex symptoms and sexual neurasthenia, while recognized by the urologists for years, have not received the same attention as other lesions in the urogenital tract. This might partly be due to the scarcity of the literature on this subject and partly caused by the lack of recognition of the importance of the same and of teaching urethroscopy in the curriculum of the medical college. And yet lesions of the colliculus are almost as numerous as all other pathologic conditions in the urinary tract and certainly as frequent as posterior urethritis. Indeed I venture to say that colloculitis and its sequelae with few exceptions constitutes the last chapter in the history of gonorrhoeal urethritis.

Other etiologic factors are sexual excess, prolonged masturbation, chronic prostatitis, repeated traumatism, like long horse back and bicycle rides, and coitus interruptus. Other lesions causing symptoms of colliculitis but having no connection with gonorrhoea are polypus, erosions, fissures, tubercles and scars following an improperly performed urethrotomy.

All sorts of painful sensations in the urogenital sphere are complained of, most of which, however, are not pathognostic of this particular condition. In milder cases tickling or heat somewhere in the urethra is mentioned, pressure or the feeling of a foreign body in the posterior urethra, burning or scalding before, during or after urination and urgent calls to urinate, oftentimes burning pain



No. 1



No. 2



No. 3

No. 1. Veru with anaemic mucosa, natural size.
No. 2. Veru with hyperaemic mucosa and moderate enlargement.
No. 3. Soft infiltration of the colliculus.

during or after each ejaculation, or after a hard stool. Neuralgic pains in the perineum radiating towards the inguinal region, the epididymis, the thighs and along the sciatic nerve, are frequent symptoms; others have intense pain along the sacral or lumbar nerves or in the abdomen above the symphysis. Horse back riding, driving over rough roads, jolting or jumping or prolonged sitting seem to increase the suffering in a proportion of these cases.

Involuntary seminal emissions, prostaticorrhea or spermatorrhea, the latter appearing after urination or defecation, are another train of symptoms. Blood stained seminal fluid is occasionally noticed, this being due to readily bleeding granulations which are covering the colliculus and should be differentiated from bloody semen caused by inflammation or tuberculosis of the seminal vesicle. Chiefly complained of in chronic cases are premature ejaculation, weak erections and also complete sexual incapacity.

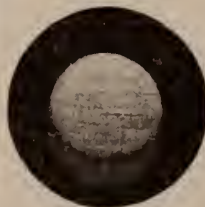
The pathologic changes underlying all these symptoms vary according to the stage in which they are found, from edema of the mucosa and hyperemia in the beginning to granulation tissue, papillary hypertrophy and fibrous sclerotic changes in the advanced cases. The close prox-



No. 7



No. 8

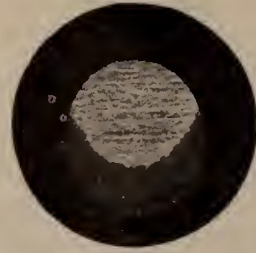


No. 9

No. 7. Extensive papilloma formation in anterior urethra.

No. 8. Papillomata in deep urethra.

No. 9. Border line between deep urethra and bladder, showing moderate hyperaemia.



No. 10

No. 10. Advanced chronic inflammation of the vesico urethral border.

imity of the ejaculatory ducts and the extension of the inflammatory process to them explains the sexual disturbances, particularly the premature ejaculations and spermatorrhea. The extension of the lesion to the fossula prostatica—the part of the urethra which borders on the colliculus below and the vesical neck above—is responsible for the vesical symptoms. The rich supply of sympathetic nerve fibres establishes the line of communication between the local process and the multitude and variety of reflex symptoms mentioned before.

For the purpose of diagnosis we have to rely on the bougie à boules and the urethroscope. The olive tip bougie which passes over the healthy posterior urethra without pain and without encountering a perceptible obstacle along its course into the bladder will cause the patient intense pain especially when travelling over the colliculus and upon withdrawing the bougie we always notice a more or less distinct jolting as the olive tip glides over the enlarged and sometimes deformed veru. In the cases which still show active inflammation more or less blood will be found on the olive tip when withdrawn.

The best and most positive information, however, is to be obtained through the urethroscope since all the pathologic changes mentioned before can be plainly observed by the eye.

The lesions are usually found on or around the veru itself, some of them anteriorly and some in the fossula, the so-called supra-veru region. The latter one is most frequently neglected in the course of an examination even by those who are more or less experienced in the employment of the urethroscope. Most commonly observed is edema and swelling of the veru itself, which in some cases shows irregular protrusions and considerable distortion. In the supra-veru region we frequently notice on the floor a thickened ridge, in

other cases granulations which upon the slightest touch are likely to bleed profusely. In the same territory we encounter the above mentioned polypi and papillary growths. The veru itself, especially its lower part, is also the seat of cystic bodies. The utricule is oftentimes found dilated and in some cases viscid fluid or pus can be seen emanating from the same. It may be stated here that in many cases the clinical symptoms as presented by the patient are entirely out of proportion to these local pathologic changes; that is to say that slight lesions frequently produce very severe subjective symptoms and show great obstinacy to any kind of treatment, while in others presenting very indefinite and mild symptoms we are quite surprised to find severe and complicated lesions.

The treatment is divided into topical applications or surgical manipulations by the same route. Silver nitrate, 20 per cent. solution on a saturated swab, gives early and satisfactory results in the inflammatory stage, in granulations and erosions; it should be applied but once in a week or ten days and where conditions demand it, such as urethral or vesical infections, daily irrigations with suitable medicated lotions between these topical applications should be resorted to. That other lesions found to exist in the urogenital tract, especially in the urethra, should be attended to at the same time, need hardly be mentioned.

In the presence of luxuriant and profusely bleeding granulations it is advisable to first crush these by large caliber metal sounds introduced every other day for several weeks before commencing the urethroscopic treatment.

Polypi and papillomata may be snared off or burned off with the electric cautery or removed by fulguration, curetted or torn off with special urethral forceps. Most of them, however, can be scraped off with the edge of the urethroscopic tube or a gauze swab on an applicator and the raw surface left after their removal should be touched up with a 30 to 50 per cent. silver nitrate solution. The bleeding associated with these procedures is of a negligible character. Where interstitial tissue is seen to have invaded the colliculus, dilatation, application of heat by suitable instruments and absorbing remedies are indicated.

I do not wish to be understood as saying that

all cases of sexual neurasthenia and debility are due to colliculitis but in the presence of such symptoms it should be our duty to ascertain the existence or absence of this lesion and if found to be present we should try to eliminate the same as a probable cause of or as at least aggravating the neurosis. On the other hand, when urinary symptoms prevail we should not be satisfied with the results of our investigation of the case from the various angles unless we have also drawn the veru montanum into the circle of our consideration.

5 North Wabash Avenue.

THE RELATION OF SYPHILIS TO CARDIOVASCULAR DISEASE.

JAMES G. CARR, M. D.,
CHICAGO.

It is not my purpose to occupy your time about the better known effects of syphilis on the cardiovascular system; aortitis, aneurism, the associated aortic regurgitation and various types of arteriosclerosis have been so thoroughly discussed that I would not be justified in taxing your patience with a discussion of these subjects.

However, certain other phases of cardiovascular syphilis, though the subject matter is not new, have to a large extent escaped the careful attention of the profession, and it is to these other types of disease not so commonly recognized as syphilitic in origin that I would like to direct your attention. Of late years Cabot has written upon the subject. Fordyce and especially Brooks and Carroll have contributed extensively to our knowledge in this field and Warthin has emphasized the effects of syphilis on the heart from the pathological side.

To present the subject as concretely as possible, I want to report briefly a few illustrative cases: The one I will first take up served to excite my own interest in the subject and is representative of the type of cases I have in mind.

The patient, a colored man, 51 years of age, was seen at the Post Graduate Dispensary: he came seeking relief for cough and epigastric pain; he had been an excessive user of whiskey. Syphilis was denied. Physical examination revealed a heart enlarged considerably, both to the left and right; the second aortic sound was markedly ringing and accentuated; liver was palpable about two fingers breadth below the costal arch in the mammary line; there was moderate edema of the ankles. Urine showed a

sp. gr. of 1009; no albumin, sugar or casts; the blood pressure was systolic 234, diastolic 150. Manifestly we were dealing with a case of broken compensation secondary to chronic interstitial nephritis; perhaps better, secondary to a sclerosis of the kidney of the benign type as classified by Volhard and Fahr. Treatment for broken compensation, digitalis, catharsis, rest, was begun and the patient improved, but not sufficiently to permit his return to work; by occupation he was a waiter. He was seen from time to time; while his improvement was distinct it was not satisfactory. Some two months after the first examination he presented himself with the statement that he had rheumatism in his thigh: examination revealed two nodules, the size of a hickory nut or larger, and intra-muscular. A diagnosis of gummata was made: the Wassermann reaction was strongly positive. The patient was put on mercurial inunctions; the gummata disappeared and the circulatory symptoms receded to a marked degree. In a short time he was able to return to work and for eighteen months, to my knowledge, the specific treatment in this apparently classical case of chronic interstitial nephritis made the difference between a man capable of making his own living and a chronic invalid. He was seen from time to time; eight months after the first blood examination he showed a negative Wassermann reaction and again four months later. His blood pressure continued high; sixteen months after his first examination he showed a systolic pressure of 250, a diastolic of 145, practically the same as when it was first taken. He has not been heard from since last January, at which time he was seen for a "cold," but expressed himself as otherwise "fine."

Stimulated by the results of this case my attention has been specifically directed to the myocardial weakness occurring as the result of syphilis. In the past four months a number of cases have been seen which have presented similar features. Most of these have been seen at the Northwestern Dispensary and only recently have we been able to make a routine use of Roentgen-ray examinations to exclude the presence of aneurism. However, in none of the cases I will report did physical examination justify the diagnosis of aneurism.

A colored man, aged 39, was first seen at the Dispensary in February, 1917; he complained of frequency of urination, a reddish color of the urine, and a shortness of breath on exertion. He admitted syphilis twenty-five years before and gave an indefinite history of rheumatism about one year prior to his present sickness. His heart was enlarged to the left; blood pressure, systolic 120, diastolic 78; urine negative. This patient, who was under the care of Dr. Chase, now in France with the Northwestern unit, was found to have a pulse rate of 84, with an apparent bigeminy, two beats close together, followed by a long pause. Dr. Chase made a polygraphic tracing and showed that the pulsus bigeminus was

not due to premature ventricular contractions, but was the result of a 3-2 heart block, every third auricular impulse failing to excite a ventricular response. The Wassermann reaction was strongly positive. Under mercurial treatment the heart block disappeared, the patient felt much better; he soon stopped his visits to the dispensary.

Another patient, a colored man of 23, first seen March 11, 1917, complained of pain about the heart, occurring paroxysmally: the pain was very severe, sharp and increased on exertion. He stated that he had been troubled in this way for three years and had always gotten better when treated for syphilis. His heart was normal so far as physical examination could show; there was no evidence of aneurism. Liver was palpable. The Wassermann reaction was strongly positive. We cannot exclude the possibility of angina, secondary to a syphilitic aortitis in this case. Eight days after the first examination, after having been on specific treatment, he reported himself as much better and then dropped out of our sight.

January 13, 1917, we first saw "K. J.," a colored woman, 48 years of age. She gave no history of rheumatism, complained of pain in the precordium, chronic cough, swelling of right leg and foot, and occasional hemoptysis. She had borne nine children, seven of whom died in infancy. Save for evidence of an increased area of dullness, cardiac examination was negative; pulse 88 and regular; blood pressure systolic 200, diastolic 125; urine sp. gr. 1008, no albumin, sugar or casts. The Wassermann reaction was strongly positive. There was moderate ascites, and there was evidence of a periostitis of the right tibia. Under mercury and digitalis she improved rapidly and soon ceased her visits to the dispensary. In July she returned with symptoms of broken compensation, which responded readily to the same line of treatment.

"G. H.," a colored woman, 31 years of age, was first seen April 24, 1917. No history of rheumatism or venereal disease. Her complaint was of dyspnea and increasing weakness. There was a diastolic murmur along the left border of the sternum; cardiac borders could not be satisfactorily determined; the arterial signs of aortic regurgitation were lacking, and a tracing showed the plateau of aortic stenosis. No evidence of aneurism was present on physical examination. Pulse was 90; systolic pressure 135, diastolic 70. Wassermann strongly positive. Under treatment with mercury she improved promptly. She was seen again in October, with similar findings, which improved promptly under a second course of mercury.

In the past two months we have seen in the County Hospital three cases of the type under discussion. One, a man of 51, with no history of rheumatism or tonsillitis, but with a strongly positive Wassermann, had a decompensated heart with the physical signs of mitral disease. The x-ray showed enlargement of the heart, with no evidence of aneurism. This patient failed to respond to treatment and died in the hospital. A second patient, a colored man of 68, gave a history of rheumatism (17 years ago) and of

syphilis (18 years ago). He had a marked decompensation; systolic pressure 210, diastolic 165. X-ray examination showed an enlarged heart; left heart and aorta increased; right auricle increased; configuration of heart was that of a mitral and aortic lesion; small left pleural effusion. The anatomical diagnosis was mitral regurgitation. The Wassermann reaction was four plus. This patient improves under treatment but is now in the hospital for the third time since last July. A third case is that of a man, aged 51, who had in the two months just prior to his admission eight or nine attacks of nocturnal cardiac asthma. The Wassermann reaction was strongly positive. Under mercurial treatment he was in the hospital four weeks, during which time he had no attack.

A case presenting different features was that of "F. D.," a colored man, aged 32, who was first seen May 18, 1917. His complaint was of abdominal distention with a slight dull pain after eating; he had limited his food because of this consequent distress. He had vomited occasionally. There was a history of typhoid seven years previously; all other diseases, including rheumatism and syphilis, were denied. Physical examination was negative except for the above mentioned abdominal distention. Gastric analysis showed total and free acids at a high normal level; otherwise negative. Blood pressure, systolic 205, diastolic 142. Urine showed a sp. gr. of 1011, a trace of albumin and a few granular casts; a few weeks later, a 24 hour specimen showed 2500 c.c. of urine of a sp. gr. of 1017; patient could concentrate and dilute the urine normally; phthalein excretion was 55 per cent. in one hour. The Wassermann reaction was strongly positive. Under mercurial treatment the symptoms disappeared promptly; the blood pressure readings were lower, but remained high; thus on July 16 the systolic pressure was 184, diastolic 128. He was not seen during August and September. Late in October he returned with a recurrence of his abdominal symptoms; at this time the Wassermann was negative; nevertheless, the symptoms again cleared up quickly under mercurial inunctions. Here we were dealing with a case, which might have been regarded as an early case of chronic interstitial nephritis, and would have been treated in vain, in default of recognition of the etiologic factor.

I have reviewed these cases briefly that I might present to you concretely the theme of this short paper. The argument I wish to maintain is this: there are, in the aggregate, many cases of so-called myocardial disease, and of hypertensive states, which will be regarded as primary, and, therefore, will be treated ineffectively, if the possibility of syphilis as an etiologic factor is not kept in mind; furthermore, such cases will show definite improvement when specific treatment is instituted in addition to the symptomatic treatment employed.

Cabot has proposed a reclassification of cardiac

disease on the basis of the etiology, accepting four main types of disease: the rheumatic, syphilitic, nephritic and arteriosclerotic. Admitting the possibility of overlapping in his classification, he contends and I believe rightly that cardiac diagnosis is not complete with the anatomical diagnosis nor with a determination as to the question of compensation. For successful treatment it is necessary, as far as possible, to gain a clear comprehension of the underlying etiological factors. In the discussion of Cabot's paper, Brooks said: "Most of us now believe that a considerable percentage of hitherto unclassified myopathies of the heart are of syphilitic origin," and Stengel remarked: "The kernel of the nut is that syphilis is an important cause of heart disease, and it should not be forgotten." Before this paper of Cabot's appeared, Brooks had published papers on the relationship of syphilis to disease of the heart. In one of these papers he stated: "In my post-mortem series I find that 66 per cent. of my luetic cases, including well and incompletely treated instances, die as a result of or with serious circulatory disease, apparently of specific origin." His anatomic study of 50 cases showed that "The epicardium or visceral pericardium was diseased in 28 of the 50—the myocardium was found diseased in 44 of the 50 cases, and true cardiac gumma was present in 5 instances. The most frequent change consisted of small round-celled infiltration about the arterioles or of foci of fibrosis." And Warthin, whose work has excited so much interest, in a comparatively recent article, makes this statement: "Latent syphilis, I believe, will be found to be the chief factor in the production of myocardial insufficiency and the cardiovascular renal complex, apparently so rapidly increasing."

As to treatment, Brooks and Carroll, and Fordyce, recommend mercury and salvarsan, in addition to potassium iodide. In advising salvarsan, they acknowledge the occasional serious reactions, and it appears that their main reliance is mercury. Personally, I have not felt justified in advising salvarsan in these cases, but have relied particularly on mercury; potassium iodide has also been used in most of my cases.

TO SUMMARIZE.

1. Many cases of myocardial insufficiency of hitherto unrecognized etiology (so-called clinical myocarditis) have developed on a syphilitic basis.

2. We must not overlook the fact that mitral insufficiency in these cases, which is often found when a patient is first seen, may be a relative or muscular insufficiency, and not the result of organic valvular disease.

3. Certain cases of hypertension, commonly regarded as chronic interstitial nephritis, have developed on a syphilitic basis.

4. The type of cases under discussion will not respond satisfactorily to treatment until the etiologic relationship is recognized and proper treatment applied.

5. Mercury or mercury and salvarsan are definitely indicated in these cases; potassium iodide will not suffice.

6. In the light of Warthin's recent work an anatomical cure cannot be promised; clinically, however, the results of treatment are, in general, excellent.

104 South Michigan Avenue.

BIBLIOGRAPHY.

- Jour. A. M. A., Oct., 24, 1914—Cabot, Brooks, Stengel.
 Amer. Jour. Med. Sci.—October, 1913—Brooks.
 Amer. Jour. Med. Sci.—October, 1916.—Warthin.
 Amer. Jour. Med. Sci.—October, 1916—Fordyce.

SPECIAL DISORDERS OF THE HEART FROM GOITER.

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Pressure symptoms with circulatory disturbances from pressure on the blood vessels in the neck have been present in 263 out of 870, or 30 per cent, of our operative goiter cases, and sub-sternal or intrathoracic lobes or projections were found at operation to be present in 360 out of 870, or 40 per cent.

Later effects of goiter may include myocarditis from disturbances of the heart; but the first effect of every goiter upon the system is an increased or abnormal suprarenal activity.

The action of the suprarenal secretion which is thrown into the blood stream and carried directly into the right side of the heart causes over-exertion of the heart muscle against a rigidly contracted arterial system, with lessened caliber of the veins and resulting distention of the capillaries from this high blood pressure.

There is, of course, lengthened capillary invasion in all tissues, during which some change occurs in the blood that makes it irritating to the lining of the heart and blood vessels. This causes a low grade of endocarditis and by affecting the

cells of Purkinje and the plexus of nerves under the endocardium causes a disturbance of the mechanism of the heart.

The first and constant effect of all kinds of goiter is to cause disturbances of the mechanism of the heart. That these disturbances are caused by goiter is proven when they are removed by goiter operation.

They were not understood until explained and made clear by the aid of the electro-cardiograph. Thorough understanding of the mechanism of the heart is necessary for diagnosis. Then it is possible to diagnose them with certainty with the usual means of physical diagnosis.

The pace of the heart is controlled normally by impulses that arise in the region of the junction of the superior vena cava and the right auricle from a club shaped node of specialized tissue, the so-called sinus node. The impulses are transmitted around the walls of the auricle to the ventriculo-auricular node and then through the bundle of "His" to the plexus of nerves under the endocardium and then to the cells of Purkinje in the ventricle. New points can develop in the auricle and even in the ventricle from which other impulses arise.

Disturbances of the mechanism of the heart are usually classed under seven headings, as follows:

1. Sinus arrhythmia.
2. Heart-block.
3. Premature contractions.
4. Simple paroxysmal.
5. Auricular flutter.
6. Auricular fibrillation.
7. Alternation of the heart.

I will discuss these hurriedly, as time will not permit me to take each up separately and consider it in greater detail. I want to acknowledge the assistance I have received from Lewis' works on these mechanisms.

Sinus arrhythmia is the normal variation in the regularity of the heart during respiration. More pronounced in the young.

Disorders of the mechanism of the heart are either disturbances of the transmission of the impulse or else come from new impulse formation. These new centers may develop in the auricle or in the ventricle. It is very important that we differentiate between the disorders of the mechanism of the heart that arise from the defects in

transmission of the impulse and those that arise from new sites of the impulses. Those due to defects of transmission of the impulse are usually classed under the head of *heart-blocks*. This class of disturbances of the heart are not due to goiter and are not influenced by the removal of goiter that may be present.

It is sometimes difficult to differentiate between *heart-block* and *premature contractions*, due to the development of new points of impulse excitation. When at regular intervals a beat is dropped or the pause between the beats is lengthened, it is due to heart-block or failure in the transmission of the impulses to the ventricle or to a premature contraction. By listening at the apex you can hear the premature contraction of the ventricle during the lengthened intervals between the pulse beat, while if it is heart-block, the heart remains silent through the interval. *Premature contractions* are more common, especially in the young.

If the pulse beats are coupled and the pause between is of regular length, either every third impulse fails to reach the ventricle or else every third regular impulse from the auricle reaches the ventricle while it is in contraction from a premature or extra contraction, in which case the impulse from the premature contraction does not reach the wrist and every third regular pulse beat is lost. When the ventricle beats at twice the pulse rate, it is due to premature contraction, disturbing every second regular contraction. When the ventricular and pulse rate is halved paroxysmally, it is always the result of heart-block.

Simple paroxysmal tachycardia is supposed to be caused from exertion, emotional disturbances, digestive disorders, valve lesions, disease of the heart muscle itself, infection, syphilis, heredity, etc. Nearly all cases upon careful investigation will be found to really belong under the head of premature contraction or *auricular flutter*.

When auricular flutter is present, new points of impulses have become sensitized in the auricle, usually near the sino auricular node. The auricle is in a state of constant contraction. As soon as it relaxes enough to be susceptible to a new impulse, an impulse from some point is ready for it. The usual auricular rates are from 260 to 320 per minute. The ventricle usually responds to only half the impulses, its usual rate being from 130 to 160 per minute. There is no change of

rate by posture, rest or exercise; the rate is about the same all the time for weeks or months. If the action of the ventricle is irregular, a little exercise will sometimes immediately exhilarate the ventricle action and give perfect regularity of the pulse.

After a time each sensitized center becomes a node that controls a small portion of the wall of the auricle. It loses the power to contract as a whole. The spasm or tonic contraction of the auricle subsides and the numerous areas contract independently of each other. The auricle dilates and admits the blood freely. Complete contraction of the auricle cannot occur. This condition is called *auricular fibrillation*. The numerous impulses from the numerous centers reach the ventricle. The one that reaches it when it has relaxed to the point that it will respond to an impulse, is the one that controls the next contraction of the ventricle. Consequently the pulse is very irregular, the faster the pulse rate, the greater the irregularity. The pulse is never quite regular and seldom do two beats of precisely equal character occur together. The heart sounds vary in intensity and rhythm, while in auricular flutter the first and second sounds are present with each cycle that gives a pulse beat in fibrillation. Numerous first sounds are present, but the second sound only when the ventricle contracts. Auricular fibrillation is really the result of flutter, not an advanced stage of auricular flutter.

When auricular flutter is present, a general anesthetic is extremely dangerous, especially for goiter operation. Unrecognized cases of auricular flutter account for a large number of sudden deaths during an operation or very shortly afterwards. Patients with auricular fibrillation usually stand anesthesia and shock of all kinds much better than one expects them to. Patients frequently complain of fluttering sensation over the chest and neck for months before flutter or fibrillation is recognized.

CONCLUSION.

Goiter causes endocarditis, premature contractions, auricular flutter, auricular fibrillation and myocarditis. Removal of goiter benefits or cures these conditions when it has caused them. Heart-block and defects in transmission of impulse are not caused by goiter and are not benefited by removal of a goiter that may be present.

OBLIQUE INGUINAL HERNIA.*

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Director Medical Department, Crane Company.

CHICAGO.

The hernia committee, appointed at the 1916 Congress of the National Safety Council, sent out a questionnaire to ascertain the causes of herniæ, as revealed to surgeons by the anatomical findings at the time of operation. The tabulated experience of surgeons operating herniæ cases would be more conclusive, it appeared to your committee, than any other available data, in illuminating this vexed problem.

The surgeons, to whom this questionnaire was addressed, were requested to tabulate, if possible, their cases available for such a report as follows:

1. Congenital hernia, with the age at which the hernia was determined.

2. Acquired hernia, without the history of trauma.

3. Traumatic hernia—under this form of hernia give the condition of the sac, whether caused by the trauma or whether of a congenital type or due to anatomical defects of parts involved in the hernia.

Your committee procrastinated, and this questionnaire was sent out too late to secure the co-operation of all the surgeons addressed. In the replies received it was disclosed that relatively few of the doctors made a statistical study of the cases they have examined. Few of the operating surgeons take notes of the findings at the time of operation from which tabulated data may be derived for the statistical study of the causes of herniæ.

The responses received, being general, rather than specific, this preliminary report will be of like nature.

The hernia committee has failed to meet as a committee to summarize the reports sent in; this work has been assigned the secretary.

PRELIMINARY REPORT BY THE SECRETARY.

In submitting this preliminary report, your secretary feels that the labors of the committee should be continued another year, or that a new committee be appointed to whom the valuable material already collected may be given.

Hernia cases puzzle employers and perplex referees and industrial boards in every state. The educational campaign on hernia should certainly be continued.

It is unfortunate that some physicians, as well as the laity, employ the term rupture as a synonym for hernia, thus confusing the public mind.

It is likewise unfortunate that the term traumatic hernia is found in the literature and on the tongues of physicians and attorneys, when such a term as latent hernia, or developmental hernia, would better explain the underlying anatomical defects that are responsible for nearly all herniæ.

As 92 per cent. or more of all herniæ are of the oblique inguinal type, occurring in the groin, along the course of the spermatic cord, our inquiry is chiefly concerned with this type of hernia. Incisional hernia, umbilical hernia, femoral hernia, and direct

inguinal hernia, all of which are admittedly caused by anatomical defects, are usually classified as due to sickness, rather than injury. The storm center is the oblique inguinal hernia.

1. The sac is the essential part of a true hernia. The hernial sac is a process of peritoneum. The peritoneum is a tough resistant membrane, no neasily pouched out to form a sac.

2. Efforts made on the cadaver at the internal ring, in an attempt to force the finger from within into the inguinal canal, are futile. "No finger is strong enough to stretch the normal peritoneum so as to form a sac," says Dr. R. W. Corwin. Others have tried this experiment.

3. For a hernia to arise suddenly there must necessarily be a pre-existing sac. The sac may exist for years, as an embryonal remnant, and remain empty. The filling of the pre-formed sac with omentum or a loop of intestine, is generally the first intimation of the existence of the hernial sac.

4. The palpating finger of the examining surgeon will fail to diagnose a hernia unless the sac fills with fluid or solid contents. Hence, in plants where careful physical examinations are conducted the record card may show that an employe had no hernia when he entered the service, yet a hernia may subsequently develop, and, at the time of operation, the hernial sac may be quite large and thick, indicating that the hernia is not a recent one.

5. The peritoneal fluid serves as a dilator for the sac of a latent hernia before the hernia acquires solid contents. When sufficiently stretched to admit a segment of intestine, this, in turn, serves as a dilator.

6. The descent of the testicle leaves a weak place in the belly wall. The processus vaginalis is an extension of the peritoneal cavity into the inguinal canal, caused by the descent of the testicle; nature is not a perfect architect, an imperfectly closed processus vaginalis predisposed to oblique inguinal hernia.

7. There is a dimple in the peritoneum and the infundibuliform fascia, covering the internal ring; this dimple may be deepened and widened by oft-repeated increases of the intra-abdominal pressure.

8. This dimple at the internal ring deepens to form a sac for the hernia more rapidly if the inguinal canal is too patulous.

9. The factors producing an overpatulous inguinal canal are: (a) Inherited thin abdominal muscles. (b) Excessive fat, by increasing the mobility of the peritoneum, and by pressure atrophy of the abdominal muscles. (c) Emaciation, by absorption of the subperitoneal fat, and the fat within the tissues of the spermatic cord.

10. The developmental hernia (into the pre-existing processus vaginalis) and the acquired hernia (the shoved-out peritoneum and infundibuliform fascia) are both accelerated by an overpatulous condition of the inguinal canals thus produced. Both types of oblique inguinal hernia are thus due to anatomical defects.

*Proceedings of the sixth annual Safety Congress.

11. A hernia into a sac of prenatal origin, or into a slowly acquired sac, is not an accident, because the filling of the pre-formed sac merely leads to the discovering of a previously existing anatomical defect.

12. Hard work develops the muscles of the abdominal walls, so that the well-nourished artisan is less inclined to hernia than the ill-nourished clerk of sedentary habits, though statistics of various occupations in relation to hernia have not been adequately tabulated.

13. The factors which increase the intra-abdominal pressure are: (a) Respiratory Diseases—Coughing, etc. (b) Gastro-Intestinal Diseases—Enteroptosis, constipation, etc. (c) Genito-Urinary Diseases—Stricture, vesical tenesmus, etc. (d) Obesity, increased omental, perirenal and subperitoneal fat.

14. Oft-repeated increases in the intra-abdominal pressure, in predisposed individuals, having anatomical defects in the peritoneum, fasciæ, rings, canals or muscles, tend to develop a hernial sac, but the process is slow and gradual; the hernia is often well developed, even scrotal in extent, before the patient knows he has a hernia.

15. An increase or aggravation of an existing hernia is naturally to be expected; hernia should always be treated surgically, unless the operative treatment is in any given case contraindicated.

16. Direct violence may produce true traumatic hernia. Such a hernia is accompanied by intense pains, shock, vomiting, tenderness, swelling, ecchymosis; operation discloses hemorrhage and laceration of tissues, and *no demonstrable hernial sac*.

17. "A true traumatic hernia, if inguinal, is nearly as much of a local injury as if it were produced on the abdomen in other regions."—*Dr. C. H. Mayo*.

18. While the sudden projection of hernial contents into a pre-formed sac may produce distressing symptoms, a surgical operation will disclose the sac; as the sac is (a) an embryonal remnant, or (b) pouched-out peritoneum, which never arises instantaneously, it becomes evident that a hernia results from anatomical defects.

19. The term traumatic hernia, predicating violence to the physical structure of the body, should therefore be reserved for those exceedingly rare cases of hernia in which direct violence has been applied, and which exhibit evidences of local trauma.

20. Your committee appreciates the courteous cooperation of the surgeons who responded to the questionnaire, and if time permits and space allows, we would recommend the reading and printing of a portion of the replies. By practically unanimous voice, these surgeons classify herniæ as due to anatomical defects rather than trauma.

CHARLES A. LAUFFER, Secretary.

Medical Director, Relief Department, Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
Safety Engineering, November, 1917.

IRIDOTASIS IN SIMPLE OR CHRONIC GLAUCOMA.

FRANK ALLPORT, M. D.
CHICAGO.

No reference will be made in this communication to the pathology of glaucoma—either acute or chronic—except to say that this disease is probably due to lack of drainage, and that any treatment or operation should be aimed at restoration of drainage. Eserin and other drugs do this by contracting the pupil and drawing the periphery of the iris away from Schlemm's canal, hoping thereby to restore drainage. Operations are performed in the hopes of forcibly opening Schlemm's canal, or of producing drainage in some other way. In acute glaucoma the old-fashioned broad iridectomy is perhaps the best procedure, but in chronic or "simple" glaucoma, other operations are, in my opinion, preferable. With the practical exception of iridectomy, all operations for simple glaucoma depend, not primarily on opening Schlemm's canal, but in producing a thin drainage or infiltration bleb capable of well and permanently draining the eye by vicarious means. Elliott's trephine operation has produced many excellent results, but this operation is difficult to properly perform and has a fair proportion of primary and late infections to its discredit. The La Grange operation is much liked by some operators, but is subject to the same objections as the Elliott operation. No operation for glaucoma can be easy and safe, but the procedure that most nearly fills this demand is, in my opinion, the one called "Iridotaxis," proposed in 1911 by Johan Borthen of Bergen, Norway, and recently endorsed in this country by Dunbar Roy of Atlanta, Ga., and others. It is performed as follows:

The eye is cleansed and cocainized in the usual manner and a speculum introduced. The patient looks down and a medium-sized triangular flap is made in the upper conjunctiva by forceps and scissors. The flap is undermined to the sclero-corneal junction by both cutting and blunt dissection scissors, but does not extend into the corneal tissue as in Elliott's operation. The flap is held out from the eye-ball (preferably by an assistant), so that it is out of the way of the operator, and also so that he can see his keratome or forceps while in the anterior chamber. A keratome is passed into the anterior chamber,

underneath the flap and just back of the sclero-corneal junction. I use a fairly large keratome (Roy uses a small one), as I wish to have the iris prolapse into the wound if possible, and I like a rather large drainage bleb. Of course, care must be taken not to injure the lens capsule. After carefully and slowly withdrawing the knife, the posterior lip of the wound should be depressed, and, if possible, the iris should be coaxed to prolapse into the wound. This renders it unnecessary to pass forceps into the anterior chamber, thus eliminating a slight danger of infection and trauma, and lessening the danger of hemorrhage and injury to the lens capsule. If the iris will not prolapse, it must be gently withdrawn with forceps. It should be torn as little as possible and should be gently spread, inside out, on the surface of the exposed sclera. It should be gently stroked into position with a spatula. The conjunctival flap should now be carefully replaced in position, over the displaced iris, by forceps and spatula, without a suture, after which bichloride vaseline should be freely smeared over the eye-ball and a bandage applied. The reaction is usually slight and so far I have had universally good results and some of my cases were operated on three years ago. One of these cases is a man, aged 55 years, with perfectly white-cupped nerve heads, with fair fields of vision—a vision of 20/30 and 20/40, and Jäger 2 (with glasses). How he does this I cannot understand, when I look at his nerve heads, but he does. I am always expecting blindness, but so far it has not come.

Of course, my few cases will not prove the superiority of this operation, and I may yet have sufficient cause to abandon it, but so far I desire to commend it and advise others to give it a fair trial.

7 West Madison street.

HE ENJOYED POOR HEALTH.

Dr. D. S. R——, who enjoyed his annual spell of grippe all last week, was able to get down to his office the last of the week and also to get out and attend a few people who were worse off than he was. That's one drawback to being a doctor—the public won't let them enjoy a sick spell in peace.—*Cuba, Ill., Journal.*

A knowledge of medicine is a prerequisite to the practice of the doctor's profession. Yet, if "socialization" continues at its present rate, many will receive scant opportunity to demonstrate that knowledge.

RADIOGRAMS OF THE INJECTED ARTERIAL SYSTEM

J. H. CARPENTER, M. D.

Radiographer.

CHICAGO, ILL.

We all know how hard it is to obtain an accurate idea of anatomy from text-book descriptions, especially the position of the various arteries and their relation to each other. Even dissection does not visualize them in their normal position.

It is in the hope of making this study easier and at the same time more thorough, that I present these cuts taken from the actual radiograms of the undisturbed arteries when injected with substances opaque to the x-ray.

A great deal of the credit for the success of this work belongs to my co-worker, Prof. A. Worsham, whose assistance has been invaluable.

This is the first instance as far as we know where the entire arterial system of the human body has been injected with a substance opaque to the x-rays and radiographed stereoscopically.

It is hard to conceive the increased value these radiograms show when viewed full size in the stereoscope, as by that method the antero posterior position of these vessels is shown as well as their lateral positions.

We have stereographed the body as a whole as well as divided into sections to bring out the points of greatest interest. We have also removed, injected and radiographed all of the internal organs in a similar manner. In the case of the hollow viscera as the stomach, appendix, colon and bladder, we have inflated them before taking the radiographs so as to show them in as near their normal position as possible.

In the cut showing the stomach, the pancreas and spleen were left attached to show the common blood supply of these parts. The other small cut shows a portion of the ilium and the cecum with the appendix attached.

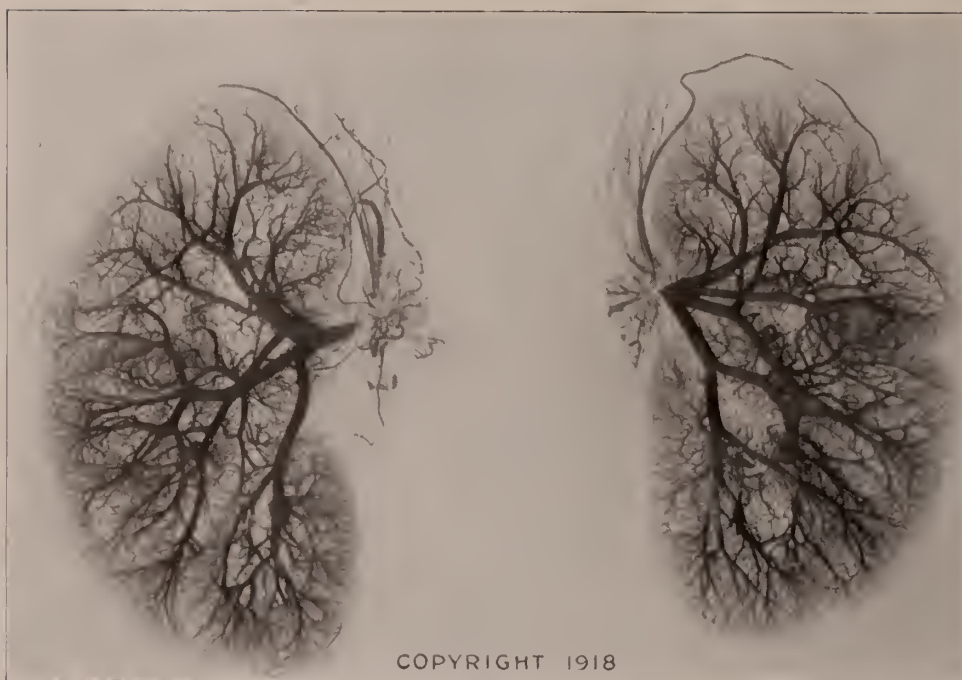
The cut showing the kidneys shows the adrenal in normal position.

It has been necessary in making the cuts of the arm and that of the body to greatly reduce them with a corresponding loss of detail. If these are examined with a reading glass much of this detail will be recovered.

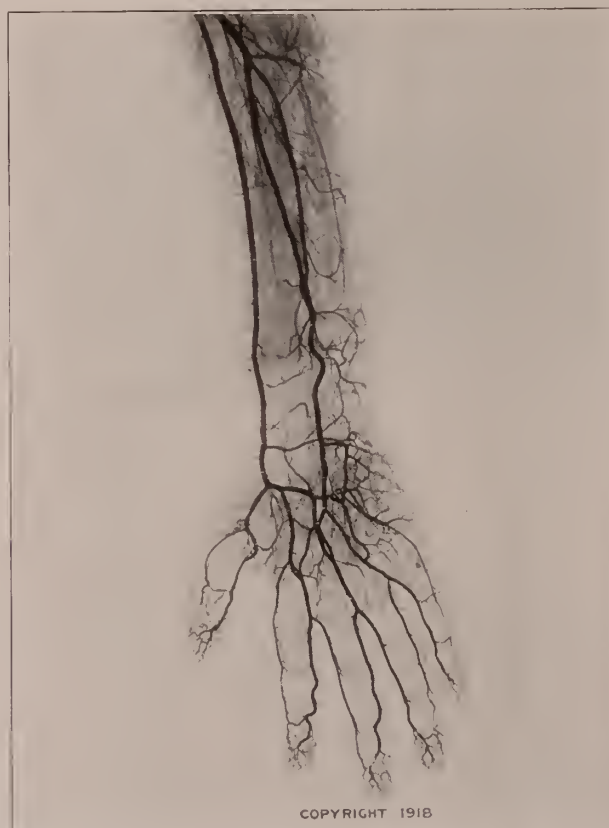
1906 Ogden Avenue.



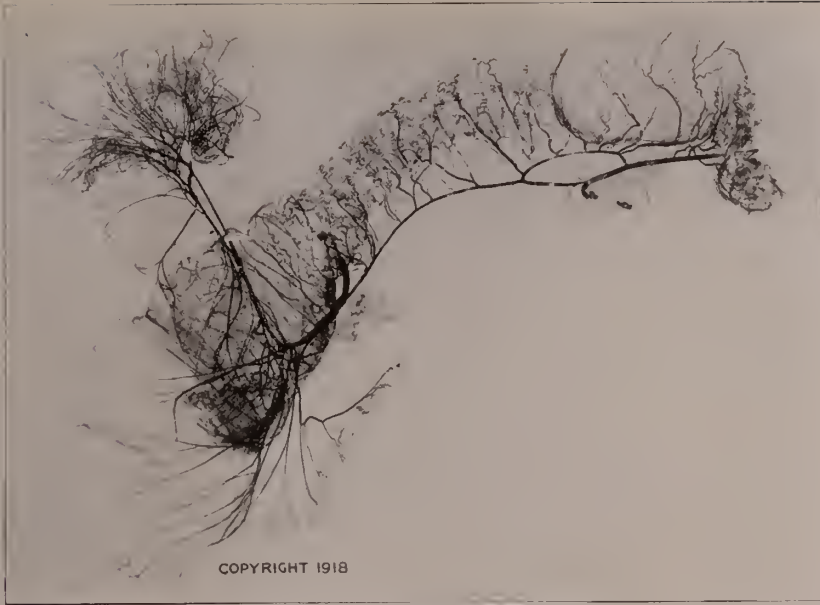
Copyrighted, 1918.
Radiogram of arterial system. Child 3 years old.



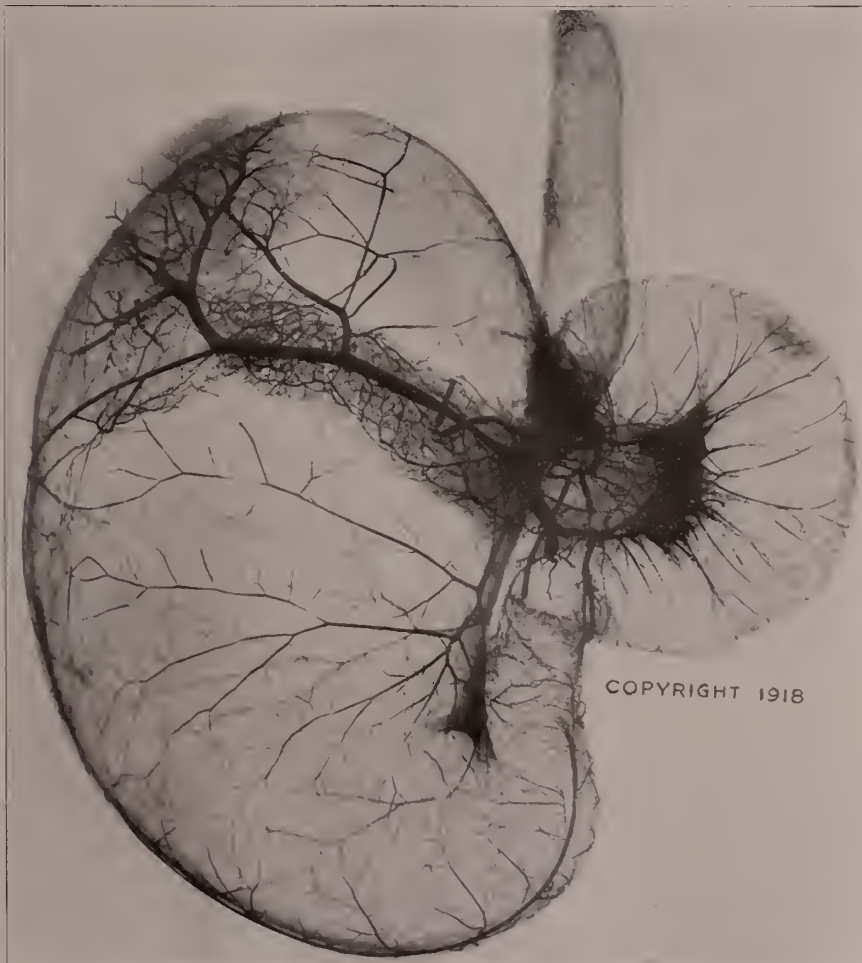
Radiogram of arteries of Kidneys and Adrenals. Child 18 months old.



Radiogram of arteries of Hand and Forearm. Child two years old.



Radiogram of arteries of appendix, showing a section of Ilium, Cecum and ascending Colon. Child one year old.



Radiogram of arteries of Stomach, Pancreas and Spleen. Child two years old.

MALIGNANT PAPILLOMA OF BLADDER COMPLICATING ENLARGED PRO- STATE AND STONE

G. FRANK LYDSTON, M. D.

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CHICAGO.

Stone complicating enlarged prostate frequently is met with. A primary nucleus of varying composition is sometimes found, with a greater or less number of phosphatic laminae. In such cases there usually is a history of nephritic colic. In a case of the author's a large primary calculus—typic "mulberry" or calcium oxalate—was found behind a fairly large "me-

of the rarer type. Patient, aged 65 years, catheter *habitué*, with the usual history of the *prostatique*, dating back some four or five years, with numerous attacks of retention. As is often the case with prostatic enlargement complicated by stone, painful micturition and pelvic pain were absent. There was a marked cystitis, with six ounces residuum. Slight hematuria had occurred from time to time, but this had been attributed to the prostatic disturbance, which, as so often is the case, had been attributed by the patient and his physician to senility. A large proportion of the profession, unhappily, still believe in "predestination" in prostatic disease. The above illustration beautifully shows the cystoscopic picture. The location of the tumor—remote from the vesical neck—explains why hemorrhage was not a prominent symptom. Suprapubic section was performed and the tumor, prostate and stone removed. Recovery was uneventful. The microscopic examination of the removed specimens showed malignancy. The stone was purely phosphatic. Even though the microscopic report had been negative, the author still would have regarded the growth as malignant. In his opinion, such tumors should be regarded as potentially malignant until some years have elapsed after removal. The patient died two years later from pneumonia, without recurrence of the bladder tumor. 25 E. Washington St.



Fig. 1. Malignant Papilloma of Bladder Complicating Enlarged Prostate and Stone.

dian lobe." Despite the fact that the stone had been present for several years, and numerous small calculi of a similar nature had from time to time been passed *per urethram*, the bladder was not infected and the urine was clear. No phosphatic laminae, therefore, had formed. There was no history of renal colic. In most instances, calculi complicating enlarged prostate are purely phosphatic, the nucleus varying from pus and mucus to blood clot. "Benign" papilloma complicating enlarged prostate rarely is met with, merely because the bladder condition *per se* usually is a disease of earlier life and causes serious symptoms relatively early.

The following case is a beautiful illustration

I do not hate the German crew as fiercely as I ought to do. I know I ought to yip and roar, and kick some panels from the door, whene'er I hear a German name, the symbol of a nation's shame. But it is vain to sit up late indulging in cheap brands of hate; and if I hated, night and day, until a pair of slats gave way, my hating wouldn't help the right, or put a single foe to flight. I'd rather show up good and strong to help the Red Cross cause along, to send a bandage to the lad who lost a wing near Petrograd, to buy the surgeons lint and knives, that they may save some heroes' lives—I'd rather do that sort of thing than hate from now until next spring. I sometimes think I am too meek when friends and neighbors rant and shriek, expressing hatred by the ton for every German and his son. But when I hate for half an hour I feel my stomach turning sour, my form is bathed in clammy sweat, and I must see the village vet. WALT MASOX

PSYCHOLOGY AS A FACTOR IN SURGERY.

GEORGE D. J. GRIFFIN, M. D.

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CHICAGO.

The passing years, bringing with it the various epochs in our intellectual advancement for meeting and combating the ills and ails which have afflicted the human race since Pandora's box was first opened, have brought many changes in treatment. Of those of most recent development, an important place has been assigned psycho-therapeutics. It has come to be a well recognized fact that a patient's mental impressions have an important bearing on his progress. The influence of the sub-conscious mind is being recognized more and more in both medicine and surgery. As an evidence of this, we have but to recall the sporadic attempts of various men to control and direct the subliminal impressions. Not so very long ago, music was introduced in one hospital during the anesthetizing of patients. This was frankly an effort to direct into channels, other than the operation, the subliminal mind. If it was for the conscious mind, it was faddism, or worse, pure bunkum; for no one will dispute the assertion that the conscious mind ceases during anesthesia. The method was perhaps spectacular, but nevertheless, laudable, for it marked the beginning of another advancement in science.

Crile of Cleveland was perhaps the first of our profession to publicly recognize the fact that the subconscious mind was still active and a factor to be reckoned with even though the conscious activities were temporarily eradicated, during a general anesthetic. Everyone is now aware of his theory that the subconscious mind is continually receiving battering impulses, transmitted from the operative field by the efferent nerve routes, that tend to exhaust the vitality of the patient. Likewise, you all know of his anoci-association method of combating this factor. His masterly presentation of the subject made us all recognize his contribution to the conservation of life. I do not believe the method entirely practicable in all operations, but there are certain types, particularly extra-abdominal ones, where it is entirely feasible and where entire control of the operative field is in our hands;

I mean, for instance, amputations, resections, herniæ, etc.

There are several factors entering into this field which deserve analysis.

1. The mental attitude of the patient toward the surgeon.
2. The attitude of the patient toward the operation.
3. The type and duration of the operation.

With the first of these factors the doctor has little, if anything, to do. The mental attitude of the patient toward himself is, to a great extent, controlled by forces over which he has little influence. It is at least favorable in practically every instance, otherwise that doctor would not be approached. His reception of the patient, personality and method of approach, as well as his manner of handling the case, will strengthen that favorable impression or else, reverse it altogether.

Every case should be so approached and administered that the patient is reassured of his selection. Every individual's cosmos is filled with the ego; each person likes to be flattered as to the perspicacity of their own judgment and every patient is ready and willing to be convinced that they have selected the right man for their particular indisposition. The best evidence of this is the fact, that regardless of the social position or financial resources of the patient, he wants a specialist in his particular ailment. He consults that specialist with preformed subconscious impressions. He may never consciously think of the doctor in the idiom of his ability. He knows he is seeing a specialist and that is sufficient for him. Confidence in the surgeon's ability lessens the pre-operative nervousness that is existent in every surgical case, and which is an important factor in post-operative shock.

2. The average patient approaches a major operation with a certain amount of mental uncertainty. Consciously or subconsciously, there is existent some factor, which for want of a better synonym we will term timidity or apprehension. This apprehension is a variable factor in different individuals, being apparent to a greater degree in some than in others. It is usually directed toward one phase or the other of the operative cycle, generally toward the anesthetic. The patient fears that he will not awaken; and

indeed this timidity is human and natural. Who of us are so smug and self-complacent as not to feel a qualm of misgiving upon resigning ourselves to a journey into oblivion? Who, amongst those assembled this evening, would not question in their own minds the certainty or uncertainty of a return of consciousness? There is truly something horrific and appalling in lapsing into a state of anesthesia during which the very spark of vitality rests in the hands of a person perhaps utterly unknown to us and with no personal interest in us, who may be an indifferent anesthetist, both as to attention and qualifications. It might be an interne, just beginning his service. I have seen internes who seem to believe that ether was a cocktail to be poured into the patient. I have seen them pour ether by the ounce on a mask which was tightly clasped over a patient's face, their attention distracted from their immediate occupation to the operation or to some other object of interest. I, on occasions, and unquestionably many of you also, have been compelled to discontinue operating to revive an over-anesthetized patient. This should not be. All hospitals should have professional anesthetists. I did not intend to give a dissertation upon anesthesia, but these thoughts forced themselves to my mind and I have long looked for an opportunity to give utterance to them.

We should remove all controllable factors of danger and causes of apprehension to a patient in an operation, and anesthesia is one of the causes of prime importance. We all know that there are certain elements of danger in the best anesthetic and likewise we are all reluctant to take one. I was asked recently to go to a dentist with a doctor, who intended having a couple of teeth extracted and planned taking gas. This man is, consciously, not afraid of man, beast or devil. Subconsciously, he dreaded anesthesia. He sought for some assuaging element and thought my presence would supply it and give confidence. He knew that I was greatly attached to him and would be extra-solicitous for his welfare. Even this, however, did not suffice, for after hesitating and then giving consent, just as the mask was placed over his face, he pushed it away and ordered the extraction to be made without anesthesia. If we doctors are victims to this fear, should we ridicule our patients who suffer from it? No. Yet many of us, instead of com-

bating it in a patient who expresses apprehension, laugh at that patient. We must remove that objection and the removal must be through psychological channels, by mental impressions and inspired confidence. We must seek the fundamental reason for the fear and rid the patient of it.

Other patients are reluctant to submit to an operation because of supposed physical conditions and their minds in this phase are frequently directed toward their hearts. Some fear post-operative calamities, lack of strength, etc. These apprehensions can be met and alleviated by a systematic and thorough examination of the physical condition of the patient, thereby impressing the patient that you as the doctor are fully cognizant of any disability that may exist. A patient's mind can be disabused of a wrong belief of anatomical or physiological defects, and belief of any statement can be assured if the patient has been impressed by the method and extent of the examination. Perhaps the most difficult cases to handle are those who have a preconceived idea of death and passively resign themselves to await the end, making no attempt at resistance. This mental attitude is particularly unwelcome in acute conditions and operations for them. Can an individual be so firmly convinced of the approach of death that he really brings death upon himself? That is a question for psychologists to answer and yet we have evidence in literature and history that has passed beyond the state of mythology, that the Kanaki natives of Hawaii believed so firmly in the power of their priests to invoke death upon them, that when any one was the object of the prayer of death they became so impressed with the idea of death or the fear of death, that they died. The explanation of this reaction is probably that of auto hypnosis. Is this same thing true of those patients whom we encounter who passively await death? Or have their subconscious minds had a glimpse through that impenetrable veil of the future which separates the "to be" from the "what is"? I am convinced that most people whose span of life is about to be terminated have a foreknowledge of the approaching event. I have had experiences that strengthen me in that conviction. In those who predict their death, I would think twice before operating. We, all of us, are undesirous of signing death certificates, and I am no exception to the rule. I am offering no suggestions as to

the method of reassuring patients in their pre-operative attitude, except to say that it must be through mental channels. The operator must control as far as possible their thoughts, removing fears, gaining confidence and giving assurance of success.

The third division, the type and duration of the operation is absolutely under the surgeon's control. Here, he has a free hand. He should know as near as possible in advance, the limit of the patient's tolerance, the physical condition and the pathological processes. With a full knowledge of the secretory activities, the blood findings, blood pressure and general organic conditions, a fair estimate may be made of the patient's ability to pass through a long or short operation, and the work to be accomplished can be planned accordingly. In view of our knowledge of the continual receipt by the brain-cells of the traumatic impulses from the seat of the operation, we should guard against such impulses and where possible, temporarily remove the conducting nerves. This can be done, as you know, by the infiltration of the field with novocain or cocain, which will produce a temporary paralysis of the sensory nerves. Such action is particularly desirable in old, feeble or weakened patients. In amputations, and flat-field operations, particularly, the entire field can be controlled.

It is less efficacious in abdominal work. We can gain something here, however, by eliminating our puttering and handling. Let us know what we are going to do and do it at once. Clean cutting with scalpel or scissors is less traumatic than dissecting and transmits fewer impulses and weaker ones, to the brain-cells. Shorter operations and speedier work where consistent with the safety and cure of the patient, should be performed. I am purposely omitting reference to the control of hemorrhage, fluid-ratio of the body, etc., in the conservation of the patient's strength because I am directing my remarks particularly toward the psychological forces which, I am convinced, are all too often neglected. And, I am further convinced, that an observance of the few points that I have discussed will tend to eliminate apprehensions, inspire greater confidence, reduce post-operative shock and lead to a quicker and surer recovery.

25 East Washington street.

THE ROENTGEN DIAGNOSIS OF GASTRIC CANCER.*

ADOLPH HARTUNG, M. D.

CHICAGO.

Although the Roentgen method of examination in gastro-intestinal diseases has been in use only a comparatively short time, it has proven itself one of the most important aids in the diagnosis of cancer of the stomach. Its intelligent use in conjunction with other clinical and laboratory methods has rendered early recognition of this disease possible with greater accuracy than heretofore. By showing the size, location and nature of the lesion, it furnishes valuable information relative to prognosis and treatment and frequently renders the exploratory operation unnecessary or shows a therapeutic one to be indicated or contra-indicated.

Its value depends largely upon the skill of the Roentgenologist in properly interpreting the findings disclosed by it. A brief description of the technic employed may help to a proper comprehension of the results obtained. The opaque meal, consisting of a bismuth salt or barium sulphate suspended in a viscid fluid, is, of course, a prime requisite since its shadow accurately portrays the lumen of the stomach and movements of its outline record functional variations of its walls. A combination of both screen and plate examination is to be recommended to get the maximum of information obtainable. If the patient has been markedly constipated it is best to cleanse the bowel by mild catharsis or enemas; violent purgation is contra-indicated as it will stimulate peristalsis unduly and may cause faulty conclusions. The patient should present himself with a fasting stomach. A preliminary fluoroscopic examination of the chest and abdomen should be made as information may occasionally be obtained thereby which is of assistance to interpreting the stomach findings. Thus, an unsuspected pulmonary tuberculosis, heart lesion, or diaphragmatic hernia may be disclosed which may have a definite bearing on the symptoms because of which the patient has been referred for examination. A metastatic involvement of the lungs or liver may be thus disclosed. The appearance of the "Magenblase" may exceptionally give information relative to a

*Read before the North Side Branch of the Chicago Medical Society, Friday, January 11, 1918.

carcinoma near the cardiac orifice. Rarely even gall or kidney stones may be seen. The opaque meal is watched on the screen as it descends through the esophagus and enters the stomach and note made of any obstruction it may meet on its course. The manner in which the stomach is distended is observed, likewise its size, shape, position, mobility and flexibility of its walls. Peristaltic contractions on both curvatures are closely followed from their inception to their termination and any anomalies or abnormalities noted. The time and manner in which the food passes through the pylorus are especially important. Simultaneous palpation may give information relative to pain points or map out tumors in relation to the stomach shadow. Turning the patient in different angles or examining him in various planes may serve to clear up doubtful findings. After six hours, during which the patient is to abstain from food and drink, a second examination is made to ascertain the presence of gastric residues. At this time it is well to note also the appearance of the meal in the bowel with a view to finding a possible carcinomatosis of the peritoneum. Another examination after 24 hours is advisable to rule out metastatic involvement of the colon. The diagnosis can frequently be made from the screen findings alone, but it is usually advisable to make a number of plates as well to check up and record the conditions seen. At times details will be disclosed on them which may have been overlooked, for plates can show minute changes which even the experienced eye may not detect on the screen.

For Roentgenologic purposes only 2 types of cancer of the stomach need be considered, the fungous or proliferative, and the scirrhus or infiltrative type. In both of these the basis and chief reliance in the Roentgen diagnosis is the filling defect. This is produced by the growth projecting into the lumen of the organ and its appearance varies greatly, depending upon the size, shape and location of the lesion. The one feature it must have to make it of value is constancy or permanency. It may be necessary to examine the patient in different planes to make it visible. Thus defects near the cardia are usually better seen in the horizontal than vertical positions. It may be demonstrable with a small part of the meal and be obliterated by the balance.

Pressure may bring it out by thinning the overlying obscuring portion of the meal. Great care is necessary in interpreting defects thus shown, for even the normal compressed stomach shows areas which simulate defects, but these practically always show rugæ. Occasionally the visualization of a defect enables palpation of a tumor mass which had escaped previous examination without this localizing help. With fungous growths the appearance of filling defects resembles that of finger prints in some plastic mass. They may be single or multiple and are usually sharply circumscribed from the surrounding uninvolved parts. The general shape of the stomach may have undergone little change. Filling defects produced by scirrhus carcinomata are commonly less irregular than the other. They shade off gradually into what appear to be uninvolved areas and generally cause marked diminution in the size of the stomach due to contraction. They may be localized or involve the greater part of the stomach. Generally the extent of the process is greater than the defect leads to infer. These growths may extend in annular form around the lumen of the pyloric region leaving only a small irregular canal for the meal to pass through. At times the filling defect may be such that it is impossible to differentiate between the type of tumor causing it.

In conjunction with filling defects, absence of peristaltic contractions in these areas is of marked diagnostic importance. The waves stop as they reach the lesion and may start again on the other side if it is situated some little distance from the pylorus. If there be obstruction at the pylorus, antiperistalsis may occasionally be seen and very rarely hyperperistalsis. Diminished or irregular peristalsis is far more common. In spite of this the cancerous stomach frequently empties itself with unusual rapidity. This may be due to non-closure of the pylorus caused by its being infiltrated by the growth or by the absence of its sphincteric contraction reflex associated with a co-incident achylia or an acid free secretion. Obstruction at the pylorus is present in over 50 per cent of the cases and is indicated Roentgenographically by retention of a variable part of the opaque meal six or more hours after ingestion.

Less distinctive, but nevertheless valuable signs in confirming the diagnosis of gastric cancer are: Lessened mobility due to possible fixation to ad-

jacent organs, decreased flexibility of the gastric wall preventing free indentation by pressure, spastic incisura opposite the lesion and changes in size, shape, and position. As already mentioned, scirrhus cancer may cause marked shrinkage even to the stage where the stomach resembles a long narrow tube and ingested food backs up in the esophagus and causes it to dilate. Large fungous growths may materially reduce the capacity of the stomach even though causing little change in the size. Exceptionally with pyloric obstruction there is a marked dilatation but usually the process progresses too rapidly to produce this change. When it is present, it is probable that the cancer was engrafted on an old ulcer which had produced the change. The shape may undergo extensive changes as represented by its lumen; cauliflower growths or scirrhus contractions in its fundus may produce an organic hour-glass deformity. Infiltrative involvement of its pyloric end may give it a pear-shape. When it is much shrunken it may be very high in the abdomen, sometimes being completely behind the costal border. A carcinoma near the cardia may cause marked obstruction to the entry of the meal into the stomach and secondarily produce dilatation of the esophagus. In rare instances where there is no actual obstruction, the growth in this area may cause cardiospasm. Tenderness on pressure in itself is of little diagnostic value in gastric cancer, as it may be absent even with extensive involvement.

The above in brief are the main Roentgenologic signs of gastric cancer. Holzkecht, of Vienna, one of the pioneers in gastro-intestinal diagnosis by Roentgen methods, who has furnished many valuable contributions along this line, early formulated a number of postulates or symptom complexes, as he called them, for the diagnosis of cancer. These copied from Potter's Abstract in International Abstract of Surgery are as follows:

SYMPTOM-COMPLEX 1.

1. Bismuth residue after six hours.
 2. Normal stomach shadow on the screen.
 3. Achylia.
- Diagnosis—small carcinoma of the pylorus.

SYMPTOM-COMPLEX 2.

1. No residue after six hours.
 2. Marked defect in gastric shadow.
 3. Horn-shaped stomach.
- Diagnosis—carcinoma. No stenosis. Inoperable.

SYMPTOM-COMPLEX 3.

1. No residue after six hours.
 2. Marked defect of the stomach shadow in the pars media or pars pylorica.
 3. Horn-shaped stomach.
- Diagnosis—carcinoma of the stomach. Operable.

SYMPTOM-COMPLEX 8.

1. Large sickle-shaped residue.
 2. Marked defect in the filling of the pars pylorica.
- Diagnosis—carcinoma on the base of an old ulcer, with stenosis.

SYMPTOM-COMPLEX 9.

1. No bismuth residue after six hours.
 2. Marked defect in the shadow of the pars pylorica or pars media.
 3. Transverse constriction of the greater curvature.
- Diagnosis—carcinoma on the basis of an old ulcer. No stenosis.

SYMPTOM-COMPLEX 10.

1. Stomach empty after six hours. Head of the bismuth column in the splenic flexure of the colon.
 2. Shortening of the stomach.
 3. Contraction of the cardia.
- Diagnosis—carcinoma of the pars cardiaca.

These with slight modifications are as true now as when issued and form a comprehensive and compact guide, especially for those who have had comparatively little experience.

Regarding the differential diagnosis of gastric cancer from the Roentgenologic standpoint, the findings are usually sufficiently distinctive to rule out other lesions which may produce similar changes. Here as in the primary diagnosis, other clinical and laboratory methods should, of course, be utilized in arriving at conclusions. As far as sarcoma, simple adenoma or myoma are concerned, which are exceedingly rare, these can in no way be differentiated. Their indications for treatment are the same. It has been shown that syphilis of the stomach may likewise cause tumor formation which is indistinguishable from cancer. History, laboratory findings and the therapeutic test may serve to tell them apart. But we must bear in mind that a syphilitic patient is not necessarily immune from cancer and the two diseases may be present co-incidentally. A tuberculous ulcer, though rare, may be difficult to differentiate unless a co-existing pulmonary tuberculosis points to the possibility of its existence.

The principal lesion which is apt to be confused with gastric cancer is gastric ulcer. The chief differential point is that ulcer rarely causes

an organic filling defect encroaching upon the lumen. When it does it invariably means the presence of an old indurated ulcer in regard to which, a quotation from MacCarty of the Mayo clinic is *à propos*. "There is no macroscopic differentiating structural difference between simple chronic gastric ulcer and an early carcinomatous chronic gastric ulcer." If this be true then it is needless to try to distinguish them; it would be wiser to give the patient the benefit of the doubt and treat the case as cancer. Perforating ulcers producing the typical Haudek niche are too characteristic to leave any doubt as to their diagnosis. The hour-glass stomach of ulcer is usually spastic rather than organic in character, although the contraction may be accentuated by scar tissue and adhesions. In shape it resembles the capital B rather than an X and usually has the canalized portion nearer the lesser curvature. The lower sac is usually much dilated in contradistinction to the small lower sac seen with cancer. Hyper-peristalsis is the rule, whereas in cancer it is the exception. Six hour stasis occurs in both but in ulcer it is usually due to pylorospasm. If ulcer produces obstruction at the pylorus there is usually marked dilatation due to the co-existing hyperperistalsis. Pain on pressure is far more common with ulcer than with cancer.

Errors in diagnosis may occur with this method as with any other, especially if the examination is conducted by inexperienced individuals who are not familiar with variations which may occur in the normal stomach or are dependent on sources outside of it. Irregular wall contractions may appear like early scirrhus infiltration. Filling defects may be simulated by pressure from without as, for example, by the spleen, a splenic flexure distended by gas, an enlarged gall-bladder, pancreatic or post mesenteric tumor, or by the spine. Change of position, palpation, observance of peristaltic waves or visualization of rugæ in the area of the defect tend to eliminate most of these factors. Adhesions to adjacent organs are not always easy to rule out as they may cause apparent filling defects, spastic incisura and retention. Palpation must be relied upon to demonstrate their nature. Spastic incisura may be of extragastric origin. Administration of anti-spasmodics to the limit of physiologic action usually causes them to disappear. Many condi-

tions outside of the stomach may produce variations in size, shape and position of the organ but knowledge of these possibilities and alertness to discover them are usually sufficient to lead to their recognition and prevent faulty interpretation. Thus an enlarged spleen may compress the stomach between itself and the liver; marked scoliosis causes change in position by adaptation to the unusual conditions. A tuberculous peritonitis with plastic adhesions may cause distortions. Involvement of the stomach by extension from a growth in the head of the pancreas or bile passage may at times be impossible of recognition Roentgenologically from primary cancer of the stomach.

As to the earliest time at which gastric cancer can be recognized by the Roentgen ray, it may be said that as soon as the growth or infiltration is of macroscopic size it gives enough Roentgenologic evidence to permit of its discovery in the great majority of cases if a thorough search be made. Often times this occurs before any of the classical clinical symptoms or laboratory findings are present. At times its location is such that its discovery is difficult. Where the Roentgen findings are negative, cancer can usually be ruled out. However, if the clinical findings in such cases are positive or strongly suspicious the examination should be repeated after two to three weeks. It is a fact, however, that most of the cases referred for x-ray examination have progressed far beyond the early stage at which they might have first been diagnosed. If all patients of a cancer age presenting themselves with digestive disturbances which had no well-defined ascertainable cause and which did not yield readily to appropriate treatment were referred for Roentgen examination the percentage of early cases diagnosed with the aid of the x-ray would undoubtedly be very materially increased. Occasionally the Roentgenologist discovers a so-called "latent cancer"—that is, one which is causing no symptoms—in the course of an examination for an entirely different condition, such as gall-stones or intestinal stasis.

In addition to the confirmatory evidence which the Roentgen examination is capable of furnishing, it provides definite and valuable information relative to the operability or more properly resectability of the growth. It is obviously im-

possible to diagnose metastatic involvement of the lymph glands draining it. Some of these indications have already been mentioned in connection with the "Symptom-Complexes" of Holzknicht. Haudek as well as several other authors, claims that a stomach which retains its hook form is operable. This, however, is not always the case as, for example, in carcinoma of the cardia. Free mobility of the tumor mass usually indicates its operability. Cole in an article in the *New York Medical Journal* of July, 1915, formulated the indications for operation based on the Roentgenologic data in the following manner:

Inoperable cancers are divided into two groups:

1. Those in which the lesion is too extensive to allow even a gastro-enterostomy. This group includes cases with pyloric obstruction but so much additional involvement that not enough normal wall in suitable locations is left to form a satisfactory anastomosis.
2. Those in which gastro-enterostomy is possible but not indicated. In this group fall those cases without pyloric obstruction but so extensive an involvement as to preclude complete removal of the growth. Such patients usually die of constitutional symptoms before the growth obstructs the pylorus.

Operable cancers are also divided into two groups:

1. Those for palliative relief. These include the majority of the cases seen. They show pyloric obstruction with enough involvement to rule out complete removal but not enough to cause death from constitutional symptoms but rather from inanition if surgical intervention is omitted. In these, life can usually be prolonged and the condition rendered more bearable.
2. Those for surgical cure. These include cases which are carcinomatous beyond reasonable doubt as well as those of indurated ulcer which may or may not be malignant. They are usually small and freely movable.

To recapitulate:

1. The Roentgen Examination in carcinoma gives definite and distinctive findings.
2. In conjunction with clinical and laboratory findings it permits of earlier diagnosis than is possible without such examination.
3. Practically all patients of cancer age with stomach symptoms of doubtful origin should be given the benefit of such an examination.
4. Negative findings practically rule out the presence of gastric cancer.
5. The findings are of value in determining the operability.

ANAL FISSURE—ITS RADICAL CURE UNDER LOCAL ANESTHESIA

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CHICAGO.

Of all the distressing lesions of the human body there is none the suffering from which approaches in any degree that from so apparently slight a pathology as a fissure of the anus, the pain of which is so agonizing that it will break down the fortitude of the most stolid. If seen early these abrasions readily yield to treatment, but usually by the time the patient presents himself to the physician inflammation and infection have occurred and surgery is our only choice.

A fissure occurs more frequently in the posterior quadrant of the anus near the posterior commissure, or occasionally in women in the anterior quadrant, but rarely upon the lateral walls. There is a depression of soft connective tissue in the posterior rectal wall between the external and internal sphincters, and fissures developing here are boat shaped in form, the lower margin being the so-called sentinel pile or it may sometimes be more distinctly seen as a ruptured crypt of Morgagni or an enlarged anal papilla. This tear in the mucous membrane is not always at the anus, but may be found anywhere from the muco-cutaneous junction to the upper limit of the columns of Morgagni; the majority begin at the upper limit of the anal canal, at the lower border of the internal sphincter, and extend downward. Infection readily takes place in the abraded surfaces and sinuses burrow up or down beneath the healthy structures or lymphatics, carry the infection into the triangular space behind the anus, or perhaps the ischio-rectal space and an abscess or fistula may result.

Pathology: The anal fissure is an elongated rent in the mucosa and is limited to a sulcus between two radical folds of the anal wall. It spreads up and down by the action of the feces against the membrane, but not laterally. If the mucosa were spread out the ulcer would prove to be somewhat circular in outline. The abrasion or tear which at first is superficial soon becomes an ulcer by infection. The edges are thickened by inflammation of the surrounding mucosa and undermined by the constant mus-

cular spasm at the base of the wound. The whole depressed surface of the ulcer is at first bright red and bleeds easily when touched. Later fatty, grayish granulations, mucus, pus and pseudo-membrane cover the surface. At this time the edges are pale, indurated and distinctly undermined, with sinuses leading into the surrounding tissues. The whole ulcer and surrounding mucosa are distinctly congested and the underlying muscular wall, which has been laid bare, is spasmodically contracted. At the lower end of the fissure the mucous membrane or mucocutaneous border is frequently hypertrophied, resembling a pile, the so-called sentinel pile, (fig. 1)

injury to the sphincter whereby the patient had no sense of control of gas or liquid material, and in some cases even lost full control over ordinary fecal matter. In some cases, particularly fissure in the posterior median commissure, it did not cure.

The technic I shall describe, consisting of incision with drainage, always produces satisfactory results and unless the patient is very nervous or hysterical the operation may be performed under local anesthesia.

Technic: The peri-anal skin and the sphincter muscle must be carefully and completely anesthetized. 0.125 per cent eucaine lactate or 0.5



Fig. 1. Anal Fissure showing Sentinel Pile.

Fig. 2. Anal Fissure in the Posterior Commissure showing thickened edges.

which is sometimes divided into two parts by the fissure. It is excruciatingly painful to the touch, and if manipulated brings on the characteristic pains. Cicatrization and apparent healing are always going on, but repeatedly breaking down again. The ulcer may perhaps heal over temporarily, but will soon be torn open by hard fecal masses or straining at stool. Such conditions alter vascular and nerve supply of the parts. A thoroughly inflamed fissure closely resembles a chancre and may be difficult to differentiate. The local history and the absence of other syphilitic symptoms are determining factors.

Surgical Treatment: Divulsion of the sphincter is a bygone method of treatment which although it did relieve and often cured the fissure was so unnecessarily brutal, produced undue traumatism and sometimes left permanent

per cent apothesine may be used for the cutaneous infiltration. I use the latter. The patient is placed in the proctologic or the exaggerated lithotomy position as best suits the conditions. The skin in the posterior raphe one inch back from the anus where it is less sensitive is touched with phenol on a swab and after waiting a few minutes the skin is picked up between the thumb and forefinger of the left hand and the needle introduced at the cauterized spot. A few drops of the apothesine solution injected here causes a wheal to arise and after waiting a few moments the needle is advanced and another wheal made while the needle is carried forward just under the skin at a distance of one-half inch from the anal opening. When the needle has been advanced its full length on one side it is retracted to the posterior commissure, but not withdrawn from the skin and

the infiltration carried up on the other side of the anus. When the full depth of the needle has been reached on both sides of the anus it is withdrawn and inserted at the most anterior wheal just made and the infiltration continued to the anterior commissure and around on the opposite side until the wheals meet those previously produced. In this way the whole anal opening is anesthetized while the needle is always kept one-half inch out from the edge of the mucous membrane. This procedure blocks the inferior sphincter nerves. When the cutaneous infiltration reaches the anal fissure the needle is carried down beneath the base of the ulcer and its surroundings including the sentinel pile are well filled. It is sometimes necessary at this time to place a cotton pledget wet with 2 per cent. apothesine into the fissure. Wait ten minutes for anesthesia to be complete and then carefully introduce the left index finger into the rectum above the external sphincter, hook the finger over the muscle and by slight traction draw it down and steady it while a long needle (at least 2.5 inches long) is passed through the skin at the anesthetized bullae into the sphincter muscles and 10 minims of 0.5 per cent. quinine and urea solution is deposited in the substance of the muscle. This deep injection is made on either side of the region of the fissure and in one or two distant parts of the sphincter. After waiting 10 minutes to insure complete analgesia the fissure is dissected out in such a way that a "V" shaped wound results which is twice as deep at the lower skin end as at the upper extremity within the anal canal. The base of the fissure is removed deep enough to expose the muscle wall and the outer end of the wound extends well out onto the skin to facilitate drainage.

The sentinel pile, if present, is carefully included in the parts cut away, and also any papilla or small polypoid growths at the upper end of the fissure, which might fall into the rent and hold the wound apart. Sinuses burrowing under the mucous membrane are sought with a probe, and when they are found should be widely opened.

The whole wound is now well annointed with heavy vaseline and the wound packed with paraffined gauze laid in narrow layers. A light anal dressing fastened with adhesive strips concludes the dressings.

In 24 hours the gauze packing is removed and its removal is painless, quite a contrast to a dry gauze packing which becomes filled with granulations and blood clots. As the gauze is removed the wound is flushed well with saline solution or sterile water and these flushings are repeated once each day and also following each bowel movement, until the field is completely healed, which requires about three weeks. During these dressings the edges must be carefully separated by the attendant pulling the buttock apart. The whole wound is exposed and regeneration develops from its base. Particular attention must be given the upper limit of the wound and also the lower skin outlet that perfect drainage may be provided. It is advisable although not necessary, that the patient keep his bed for a day or two after the operation. No effort is made to confine the bowels, but the evacuations should be kept free and the movements soft, and after each defecation the patient should take a warm antiseptic sitz bath.

30 North Michigan Avenue.

THE OPERATIVE TREATMENT OF TUBERCULOSIS OF THE SMALL BONES.

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CHICAGO.

Someone rightfully has said that every new suggestion in surgery and every discovery in medicine moves through certain phases of reaction with the profession and eventually may become a new standardized procedure. To this I would add that not infrequently measures cling to us by inheritance and custom, and we are often loth to depart from them to adopt newer procedures, the value of which we fail to early appreciate or comprehend.

That surgery should precede or supplement the older and conservative methods of treatment in tuberculous bone and joint disease is not unreasonable. Surgical methods, however, could not contribute to the cure of tuberculosis of the large joints without involving a great sacrifice of bone and a crippling deformity, hence the orthopedic surgeon, apparently satisfied with the arrest of the disease in three or four years, generally with-

out deformity, usually has preferred to cling to conservative methods. In certain adult cases, however, radical operation has been recommended in tuberculous bone disease, but in children it has been thought that better results were obtained by conservative treatment.

An experience occurring to the writer about three and a half years ago in the case of a child with tuberculous ankle disease, the details of which will be given later, furnished the incentive for renewed interest in the operative treatment of tuberculosis of the small bones. Since then my series of cases has comprised a sufficient number to warrant a definite opinion which leads me to emphasize the practicability of surgical measures which will shorten the long period of treatment necessitated by conservative methods.

This brings us to the question: Can operative procedure for tuberculous disease of the small bones, as in the ankle, foot and wrist, shorten the period of treatment and at the same time secure as good an ultimate result as that obtained by conservative methods?

The length of time consumed by conservative treatment in tuberculous ankle or wrist joint disease is never under one and one-half years, seldom under two years and generally is three or more years. Because of the arrangement of the structures involved, there is a marked tendency for the tuberculous disease to extend from one bone to another until, especially in adults, the entire foot or hand is involved. A frequent effect of the disease is suppuration. Mixed infection may riddle the entire foot or wrist with septic sinuses. Pulmonary phthisis is a common complication. In children, however, the outlook is not so bad as in adults, this being due probably to the greater power of resistance and repair shown in the tissues affected. With this in mind I always had opposed operative procedure until the result obtained in the following case threw new light upon surgical interference.

A little girl, aged four, was brought to me for operation for a "swelling" of 10 weeks' duration in the right ankle, which came on insidiously, accompanied with little pain. Examination showed a poorly developed little girl; on the inner aspect of her right ankle was a small fluctuating mass, the skin over which was tense but not red, and only slightly painful on pressure. The foot was in position of talipes valgus and motion was restricted only in adduction. The afternoon temperature was 100°. Roentgenograms showed some destruction of the astragalus.

Diagnosis: Tuberculosis of the astragalus. Conservative treatment was repeatedly advised and each time refused by the mother. Finally I performed an astraglectomy and applied a plaster cast. The postoperative treatment was without incident. Orthopedic after care was continued for about 6 months, *i. e.*, until there was no longer any afternoon rise of temperature.

It is a common observation that at least seventy-five per cent. of cases of tuberculous joint disease run a persistent afternoon rise of temperature which varies from 99.4 to 100. Patients should not be discharged as cured as long as there remains any abnormal rise of temperature.

The ultimate result in this case was a cure within six months, with a leg presenting one-half-inch shortening and with the foot, when weight-bearing, in a position of slight varus.

Encouraged by the course the above case was running, I did not hesitate to operate on a girl aged twelve, with the following history:

About eight months previously she complained of discomfort and pain in the right ankle which became swollen and four months later developed a discharging sinus on the outer side of the heel. Examination revealed much swelling of the entire right ankle and foot, more marked below the external malleolus. The skin on the outer side was red and there was a discharging sinus. She complained of some tenderness on pressure though movement at the ankle joint was not painful. There was some afternoon rise of temperature. Roentgenogram showed an area of necrosis on the anterior and the outer side of the os calcis. About ten days later the inner side of the ankle became very painful, fluctuation could be detected and later the abscess opened spontaneously.

As the focus of the disease was located in the outer and anterior side of the os calcis, operation was planned to reach the deposit by an external incision. The diseased area was chiseled out—a gauze drain inserted and a plaster cast applied. Increased suppuration occurred which subsided in four months. Casts were used for a period of eight months.

The ultimate result was a cure in eight months without shortening.

A third illustrative case is that of Maggie P., aged seventeen, who entered my service at Cook County Hospital complaining of pain in the right wrist, which commenced three months previously and had gradually become more severe. Examination showed an enlarged wrist, the bony outlines of which were obscured. The swelling involved one-third of the forearm and the hand to about the base of the fingers; tenderness on pressure was most marked over the carpal bones and motion at the wrist joint was painful. Roentgenogram showed characteristic shadows of tuberculous osteo-arthritis; there was marked evidence of absorption of the carpal bones. The

process seemed to extend along the radius and ulna and marked erosions were present; the bones distal to the area were very markedly deficient in calcium salts. Two weeks later there was a discharging sinus on the radial and flexor surface of the forearm and eight days later a second discharging sinus on the ulnar side of the forearm.

The surgical procedure consisted of the removal of all the carpal bones. A plaster cast was applied with a fenestrum through which the wound was dressed,—there being much purulent discharge. The sinuses healed in about eight months. Orthopedic after treatment was given for one year. The ultimate result was a cure in one year with impaired function.

A fourth illustrative case is Ida B., aged three. About four months previously the dorsum of the left foot was first noticed to be slightly swollen which condition gradually disappeared. A short time later the swelling reappeared and was painful on pressure and on walking. Examination showed the swelling on the dorsum of the foot to be a small fluctuating mass—a cold abscess. Motion at the ankle joint was free. The afternoon rise of temperature was to 99.6. Von Pirquet test was positive. Roentgenogram showed destruction of the internal cuneiform and head of the second metatarsal bone. September 30, 1916, operation was performed. A cold abscess was found beneath the skin. The internal cuneiform was removed and a portion of the second metatarsal chiseled away. A gauze drain was inserted and the foot and leg placed in a posterior plaster splint. Suppuration occurred and continued up to three weeks ago. Cure is almost complete in a period of eight months.

In no disease is surgery more justified than in tuberculous disease of the small bones of the ankle, foot and wrist, other views to the contrary, notwithstanding. It should be undertaken at the earliest possible time in adults because of the greater liability of the bones to suppurate and the frequent complication of pulmonary tuberculosis. It takes courage, however, to advise operation in children in the beginning of tuberculous joint disease where there is a great probability of a cure by conservative methods. Conversely the results obtained by conservative methods in adults are so poor in most cases that amputation offers the only chance to save life.

Disease of the astragalus usually necessitates astragalectomy and, at times, resection of the joint. In disease of the os calcis, operative treatment consists of the removal of the foci by chiseling. In disease of the tarsal bones, if the process is not extensive, resection of the involved bone may check the disease. Involvement of a metatarsal bone calls for its removal. Tuberculous disease limited to a single bone of the carpus or

metacarpus must be treated by operative removal of the diseased bone, except in children, in whom conservative methods should first be tried; but if several of the carpal bones are diseased, whether in adults or children, then all of the carpals must be removed.

Suppuration in tuberculous disease of the small bones, whether in the form of a "cold" abscess or a discharging sinus, is a positive indication for operation. But operation necessarily will increase suppuration because it disseminates the infection in the normal, highly vascular and cellular spaces surrounding the seat of infection; with free drainage, however, suppuration gradually subsides.

Amputation is indicated in certain cases—(1) when the septic processes have brought about destruction of the structures, and (2) where there is no longer any possibility of curing the diseased bones and saving a useful foot or hand.

Let me emphasize the fact that if resection is performed before several joint surfaces are involved, resection then will eradicate the diseased area and shorten the period of cure. Unfortunately, however, surgical procedure usually is delayed until amputation is imperative and by that time there generally is some lung involvement. Many a foot and many a hand have needlessly been sacrificed, to say nothing of the lives that have been lost because of the failure to adopt early operative procedure.

31 North State Street.

REPORT OF THREE CASES OF APPENDICITIS COMPLICATED BY PREGNANCY.

LEONARD P. DAWES, M. D.,
JUNEAU, ALASKA.

After reading Professor Heineck's article in the April number of the ILLINOIS MEDICAL JOURNAL in which he reviewed the reported cases of appendicitis complicating pregnancy in the French, English and German literature for the years 1900 to 1915 inclusive, in which time 172 cases only are reported, I submit the following case reports, and trust you will find space in your JOURNAL for same.

Case 1. Mrs. J. S., aged 20 years, primipara, came to me May 24, 1916, suffering great pain in the lower right side of the abdomen. There was a history of chill at the beginning of the attack. She had

menstruated last about April 20 and considered herself pregnant.

She gave a history of three previous attacks which were similar to the present, before marriage, and surgeons had advised the removal of the appendix. Operation was advised and done, the appendix being found retro-cecal and buried in dense old adhesions. There was an active inflammation of the appendix and it was removed with considerable difficulty.

Labor pains developed several times during the first few days which were controlled with morphin. These pains subsided gradually and entirely by the end of the week and she went to full term and gave birth to a healthy child in December.

Case 2. Mrs. L. J. I., aged 20 years, primipara, consulted me December 16, 1916. She had missed one menstruation and thought she was pregnant. She has had two similar attacks with diagnosis of appendicitis previous to this. This attack started with chill, nausea and vomiting and pain in the right side. Tenderness was marked and there was rigidity of the muscles of the right side. Operation was advised and done. The appendix was large, not adherent, and contained a large concretion and there were several small ulcers on the mucosa. She made a good recovery and was sent home in about three weeks. Her progress was favorable until the end of the seventh month when pernicious vomiting set in and continued for three weeks when she again returned to me for treatment. At this time she was secreting 13 ounces of urine in twenty-four hours which contained considerable albumin. Under treatment the quantity was increased to 30 ounces per 24 hours but the albumin and vomiting persisted. After one week of this treatment and observation, the patient in the meantime becoming weaker, it was decided to empty the uterus. She was etherized and a rapid dilatation done and a living child delivered, the mother making a good recovery, and has continued healthy to date.

Case 3. Mrs. W. P. L., aged 30 years, multipara. Present trouble began at 2 a. m., October 19, 1916, with chill, intense diffuse abdominal pain, nausea and vomiting and profuse perspiration, the pain rapidly becoming localized in the right side, and by 9 a. m. a mass could be palpated. The temperature was subnormal at first, going to 101 F. by 9 a. m. Pulse 100 per minute. She was pregnant about three months.

Operation was advised and done the same morning. The appendix was surrounded by adherent omentum and there was present considerable serofibrinous exudate. The appendix was large, soft and appeared bordering on gangrene. This patient made a good recovery and went to full term with normal delivery.

WILLIAM THE KAISER.

William the kaiser (may his tribe decrease!)
Woke in the dark from some nightmare of peace,
And saw, within the dim light of his room,
Making it lurid as a hell in gloom.
A devil, writing in a book of brass—
A love of war had made the kaiser crass!
And to the devil in the room he said:

"What writest thou?" The demon raised his head.
And with a look made all of rank discord
Answered: "The names of those who hate the Lord!"
"And is mine one?" said William. "Nay, not so!"
Replied the devil. William spoke more low,
But cheerily still, and said: "I pray thee, then,
Write me as one who hates his fellow men."
The devil wrote—and vanished! The next night
He came again, with a great wakening light,
And showed the names whom hate of God had curst—
And lo! the kaiser's name was printed FIRST!

—J. S. GRAY, *New York Herald*.

THE REAL MEANING OF THRIFT.

Just now the word thrift is heard on every hand. A great program of thrift has been instituted by the Government at Washington. Thrift is being preached everywhere—in pulpit and press, in clubs and other meeting places, shouted abroad in the streets. The very letter that comes to you in the morning mail bears a legend to the effect that food will win the war and that all must economize. What is the meaning of this thrift?

For many years students of political economy, of whom Adam Smith and John Stewart Mill perhaps are best known to the American people, have written of thrift and its effect upon the political and social body. Thrift does not mean hoarding. It does not mean saving and sparing, alone. It does not mean penuriousness and niggardliness. Thrift means a wise withdrawal of capital from unproductive uses and its diversion into channels of productivity. In other words, it is not thrift to save a dollar and secrete it in a teapot or an old sock. Thrift means saving the dollar and putting it to work by investing it in some project where it will yield safe and wholesome returns.

The United States is at present engaged in the tremendous task of organizing an army and a navy, transporting men 3,000 miles to a battle front, providing these men with food and guns and ammunition and helping feed our allies in the task of defeating the most sinister and malignant military force that ever sprang at the throat of civilization. Those chosen to direct this tremendous enterprise, the Government at Washington, need *your* dollar, and the Government is willing to pay a liberal rate of interest for the use of it.

Real thrift may be exercised by diverting money to the Government's use in these critical times when thrift contributes so strongly to ultimate success. If the Government's promise to pay back at a liberal rate of interest is not good, neither is the money of the land worth anything. The Government, of which every man, woman and child of the land is a part, will use the money to thwart the unholy purposes of a hostile, conscienceless power that hid behind a veil of nauseous intrigue and plotted the conquest of the world by force of arms. Thrift on the part of the great American nation will pave the way to a universal understanding which will mean that Peace shall reign in the world without danger of attack from the forces that would supplant it with the Right of Might.

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FEBRUARY, 1918

Editorials

Go back to the simple life, be contented with simple food, simple pleasures, simple clothes. Work hard, pray hard, play hard. Work, eat, recreate and sleep. Do it all courageously.

We have a victory to win.
—HOOVER.

RANKING OF MEDICAL MEN IN THE ARMY

There is a bill before the Senate and the House of Representatives known as the Owen-Dyer bill. Its object is to distribute the medical staff of the Army, including the officers of the National Guard and the Medical Reserve Corps, in grades in the same ratio as obtains in the Navy. It also includes provisions for an increase in rank of officers in the Medical Reserve Corps equal to that of the regular Army medical officers. Every physician,

as well as the relatives of every soldier in the Army, should work for the passage of this bill.

It is common knowledge that the regular Army officer has no respect for the Medical Department. This is because of the very low rank of the medical officer. Rank is everything in the Army, regardless of who says it is not. We again refer to the report that early in the war an effort was made in the English Parliament to prevent American doctors from serving in hospital units where English soldiers were treated, and this because of the inferior ranking (Army) of the American doctor.

The lack of authority of medical officers and the colossal ignorance of a line officer were responsible for several hundred deaths at Chickamauga and this after being advised and warned by the Medical Department.

The opinion of civilian medical men is sought by the Government on many questions of sanitation, and is followed so long as the medical man is not in the Army, but place on him the uniform of the United States Army (Medical Reserve Corps), and the highest opinion he may have is ranked as the opinion of a major, with about as much influence or authority as the proverbial snow ball.

Fortunately there is not as great ignorance, we believe, in the line officers of the Army now as there was in 1898, nor as great arrogance or egotism, but, nevertheless, the Medical Department of the Army should have requisite authority (and knowledge) to prevent other such blunders as occurred during the Civil and the Spanish-American wars. The sanitation blunders of the war of 1898 were proportionately as great as those of the Civil war, in fact showed greater stupidity, and most of those of 1898 were because the Medical Department was snubbed continuously.

This is not a question of a few more dollars. It is a question of saving the lives of these good American men now serving the country. We urge all of our readers to write their senator or congressman, and request their aid in the passage of the Owen-Dyer bill, as this will be one step toward creating respect and recognition of the Medical Department of the United States Army.

FAILED TO GIVE CREDIT

Through an error of the Editor, credit was not given for original publication in the *American Journal of Diseases of Children* of the article by Dr. J. H. Hess on, "The Diagnosis of the Age of

the Fetus by the Use of Roentgenograms," which was published in the February number of the ILLINOIS MEDICAL JOURNAL. Credit should have been given to the *American Journal of Diseases of Children*.

HOSPITAL STANDARDIZATION

A consideration of this subject must take into account two fundamental questions. First: Shall the hospitals of the country be regulated and standardized? Second: By *whom* shall the hospitals be standardized? Assuming that only an affirmative answer can be given to the first question, the second question becomes important.

Present developments suggest two solutions for this question, as two medical organizations are already in the field. Namely the American College of Surgeons and the American Medical Association.

The motives of the American College of Surgeons in attempting to impose its regulations upon hospitals will be challenged by practically everyone possessed of sufficient penetration to see beyond the high sounding phrases which the "College" hides behind while it confesses its sacred mission.

The history of this organization from its beginning is that of a colossal effort to corner the surgery of the country.

The aims of this "College" which boasts four thousand members who pay in dues one hundred thousand dollars annually, are set forth in its much vaunted "Fellowship Pledge."

In a column five inches long this "Pledge" measures up approximately as follows: Introductory and pledge of loyalty to the "College" one inch. High sounding generalization—one and one-half inches. Concerning the surgeons fee—two and one-half inches. An x-ray measurement of the "Pledge" shows the *fee part* to be about four and seven-eighths of the five-inch total.

When the dragnet for members in this ambitious enterprise was first cast, the candidates for fame were led to soliloquize about as follows: "Here is a chance to show to all interested parties who the real surgeon in this community is. This recognition of real ability has been delayed altogether too long, but at last here is name and fame at a single bound—just look at that second inch and a half of the fellowship pledge. An appropriate academic robe with a five-inch scarlet

velvet facing, together with a row of letters after one's name will certainly bring in operations, besides making the undecorated outsider look cheap, which of course is what he deserves. To be sure, there will have to be a few well paid men around the top, for instance a secretary-general at ten thousand dollars a year, but a thing of this kind won't last without a good "business agent," besides, the increased number of operations will more than take care of all expenses."

However well membership in the American College of Surgeons has succeeded as a "business getter," evidently the management believes that its members can easily take care of a few more patients, for the questionnaire sent to hospitals does not get very far before the all important surgeon's fee bobs up once more—the inference being that the last two and one-half inches of the fellowship pledge will smooth out most of the hospital difficulties and incidentally that only members of the "College" should be recognized as qualified for membership of the hospital staff.

It is illogical that one group of specialists, whatever its pretensions, should be permitted to undertake the solution of the hospital problem and most certainly should this important duty not be delegated to an organization that from its inception to the present time has sought to cast discredit upon the rank and file of the whole medical profession.

The only logical organization to assume the responsibility of hospital standardization is the American Medical Association, representing as it does every form of reputable special and general practice. Its results in handling the problem of medical education is sufficient guarantee that its work of hospital standardization will be brought to a satisfactory conclusion.

NORTH SHORE PATRIOTIC DINNER

The North Shore Branch of the Chicago Medical Society on the evening of February 16th, did honor to the medical men of the North Shore now in the service, by presenting them a service flag. Dr. Frank Morton was responsible for the patriotic dinner that was given, at which time the flag was presented and was accepted in the name of the Army by Colonel H. J. Raymond.

The enthusiasm of the project may best be estimated by the fact that almost eight hundred

people sat down to dinner, and after dinner remained until a late hour that they might hear an address given by a master orator and a true patriot.

The toastmaster, Dr. Chas. J. Whalen, introduced the speakers, among whom were Drs. C. E. Humiston, J. V. Fowler, W. A. Pusey, J. F. Biehn, W. E. Post, Judge W. M. McEwen, Colonel Raymond and Bishop Anderson. The remarks of the speakers were brief, but showed plainly the loyalty of the medical profession and the spirit with which it will serve the nation in its every crisis.

One must note the tone of sincerity in the speech of acceptance delivered by Colonel Raymond. It marks more plainly the amalgamation of the civilian medical fraternity with that of the military organization.

Dr. Pusey in his speech touched on a phase of the doctors' service that has not been brought much to light. He notes the extraordinary sacrifice required of most of the medical men,—a sacrifice that is peculiar to the medical profession,—but in this sacrifice he does not sympathize with but envies those men who are giving service.

Those who were unable to attend and hear the address of Bishop Anderson missed hearing an oration comparable with any of those noted ones emanating from high sources. It is to be regretted that this address could not have been heard by every American citizen. It dealt not only with patriotism but with Americanism.

After Dr. Biehn, President of the Branch, presented the flag and Colonel Raymond accepted it, little Miss Dorothy Morton and Donald Whalen each drew back a large American flag uncovering the flag of honor. A flash light was taken which we reproduce.

The North Shore Branch has honored itself in honoring the men in the service, and we congratulate the officers of that Society for the success of the affair.

ADDRESS AT DEDICATION OF SERVICE FLAG.

WM. ALLEN PUSEY, M. D.
President-elect Chicago Medical Society.

CHICAGO.

I am glad to take part in this event. I like to see the bright lights and to hear the band play. I like to see good humored people eating a good dinner, and enjoying light conversation and speeches—which put

no tax on the mind. I can even enjoy such an occasion with men alone. But when we have the ladies; when the ladies add their gracious presence to such an occasion; when to the drab pleasure of a man's party we add the brilliant joy that the ladies furnish, then to my mind we have a real party! Like Sidney Smith about the strawberry, I feel that doubtless the Lord might have made a better occasion, but doubtless also he never did. As my old grandfather once said to me: If I were worth a million dollars and liked to travel, I wouldn't move six inches.

Seriously I hold myself fortunate that as an officer of the Chicago Medical Society, I have the opportunity to take active part in this tribute to our soldier colleagues. The occasion is an event in the history of the Chicago Medical Society and an honor to the North Shore Branch.

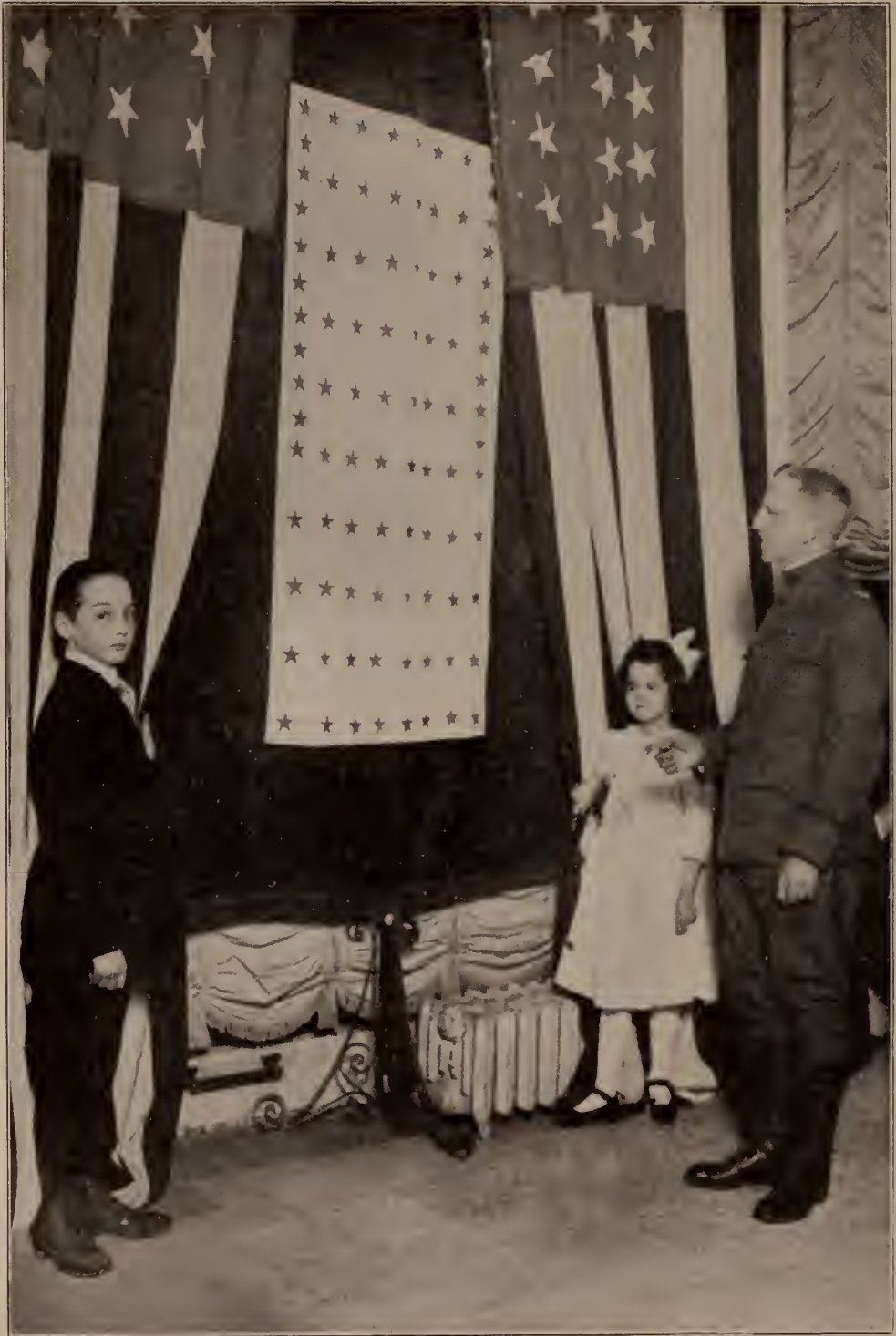
I have an admiration that is, perhaps, extravagant for the part of the medical profession that has given itself to the war. It is an honor to the profession of the United States. Over 16,000 doctors have accepted commissions in the Medical Reserve Corps; that means that one in every five of the doctors that are worth counting are already in the service of the country. And I believe I am in position to know that as many more will volunteer as they are required. The showing already is a magnificent showing—the country with all of its fine effort has nothing better.

And as I am proud of the showing of the profession as a whole, I am full of admiration for the individuals who have gone in. They have the real spirit. They are the kind that when it comes to themselves, are not always considering Safety First. They are not those who have always in mind the damage that may occur to their own miserable little hides. They are not willing to compromise about the essential matters of life, or to accept the comforts of peace obtained by other men's efforts.

The men in the medical corps have shown that they have courage. They are not afraid to cut loose from their easy moorings and start on a voyage they know not where, so long as there is a demand that they should do it.

They are ready to dare; and they are ready to make sacrifices. They have shown themselves ready to make every sacrifice. To give up the comforts of home, and to do the hardest thing—to have their families make sacrifices. And their wives, God bless them—have shown the same readiness.

Dr. Franklin Martin last Wednesday night laid particular emphasis on the patriotism of "the dollar a year man." I have no disposition to belittle him. I admire him and give him all praise—not because he is a dollar-a-year man, but because he is a patriot. But the first thing that being a "dollar a year man" shows beyond doubt is that he is not dependent upon his labor for his income. The medical profession would be relieved of many difficulties if it could only be dollar-a-year men. In a very real sense the doctors who have gone into this war are more than dollar-a-year men; for they have had behind them no incomes independent of their labors and they have sacrificed their profes-



Colonel Raymond Accepting the Service Flag.

sional incomes that their families cannot forego without hardship.

The younger men have gone; and in doing so have given up the beginning independence that is following years of effort and privation. I believe when they come back they can start about where they left off, but they do not think so.

The older men have gone; and have given up for a meager salary ample incomes that they need for their families.

It's all magnificent. I repeat I have only respect for the rich man who goes in for nothing; but I wish to emphasize the point that no less of "a dollar a year man" than Julius Rosenwald made to me, that the man who is making the great sacrifice is he who must have the small salary the government gives him in order to support in a meager way his family that has been used to better.

In the face of the greater sacrifices that war demands of us, I would not over-emphasize the material sacrifices our men make, but I would call attention to the fact that to the great number of doctors who have gone in, the material sacrifice for their families is a big thing.

But if I appreciate the spirit and the sacrifice of the man who has gone to war, I do not offer him sympathy. I envy him. He and his have the immeasurable recompense of pride in duty well done. He is doing his part in great affairs. He has the satisfaction of knowing that he has risen to the full measure of the best that could be asked of him. He is pursuing a course in the great crisis that will always be the most treasured memory of himself and his family. He is increasing his own self-respect, and he has the respect and gratitude and admiration of his fellows.

Every time I see a service flag in a window I feel like raising my hat. And, thank God, we are seeing these emblems of pride and affection and patriotism everywhere—in the window of the cottage that back up the railroad track and on the boulevard.

I can't exaggerate my admiration for our medical officer. I render him my tribute and I salute him.

PRESENTATION OF SERVICE FLAG.

J. F. BIEHN, M. D.

President, North Shore Branch, Chicago Medical Society.
CHICAGO.

It is amazing when we stop to think of it, to what extent human beings are guided, inspired and cheered by emblems. We are stirred by them more often than by any other influence. They seem when our eyes rest upon them to visualize the great things that we are striving for. They serve to fix upon our minds and our hearts deeper convictions and holier devotion to great principles.

I do not mean to say that without emblems there would be no such things as lofty courage and devotion to duty and principle; but what I do intend to convey is that those things that are emblematic of love of country and of home and of the things that are dear and sweet to every American heart appeal

to us all at times with peculiar force and power. I do not happen to know just who suggested the idea of service flags; but whoever it was, we owe to that person or persons a debt of gratitude. And whether the flag contains one star or many stars, whether it hangs in the window of the humblest home in the land, or whether unfurled in a great industrial institution where it contains hundreds of stars, it still has for us all the same inspiring influence.

I need hardly say that perhaps of all the professions the medical profession is contributing most liberally and loyally to the cause in which we are now engaged, and the field in which medical men offer their services is one of peculiar hardship and strain and having its own peculiar dangers. The work of the medical man in the camp and in the field calls for as high a spirit of devotion, patriotism and loyalty to his country and his flag as that offered by any other branch of the service. The only regret is that it seems in all of the armies in the world today there is a scarcity of trained medical men and their faithful allies, the trained nurse.

The North Shore Branch of the Chicago Medical Society has contributed, we believe, most liberally and loyally, to the ranks of those who have gone to the front to serve their country. And it is because of this that this flag containing now nearly 100 stars, has been made to be presented here tonight. It will, I know, be given an honored place, and this Society will not forget the men who have gone to the front and who are represented by the stars on this flag. This flag will help us to not forget them, to be diligent and alert in looking after their comfort and after the comfort and safety of the dear ones that they leave behind.

ACCEPTANCE OF SERVICE FLAG ON BEHALF OF THE ARMY AND NAVY.

COLONEL HENRY I. RAYMOND, M. C., U. S. A.
Department Surgeon, Central Dept.

Mr. Chairman, Ladies and Gentlemen: As Department Surgeon, I am delegated to accept this flag on behalf of the Army and Navy, and more especially on behalf of the medical men represented by the ninety *actual* and the ten *potential* stars on this flag, dedicated as it is to those medical officers of the North Shore Branch who have *gone* to the front, to those who may or *will go* to the front, to those who will *go back to the front*, presented by those who must remain at home to *back the front*. Your appreciation of us for our having entered the service, as evinced by the presentation of this flag, makes us strong in your strength, adds a cubit to our stature and makes us feel greater and grander than we really are. Lord Bacon before he came to fame and fortune built for himself a humble cottage in the country suitable for his needs. When Queen Elizabeth raised him to the Chancellorship, she visited him at his home and exclaimed: "Why have you built your house so small?" "It is not I, your Majesty, who have built my house too small for me, it is you who have made me too great for my house." Men of the North Shore Branch, it is you who have made us too great for our deserts,

But with such backing from the home base every soldier of us feels himself a *jusqu'aboutist*—one who will be in at the end when the last gun is fired, or die or be disabled in the attempt; one who knows no obstacle that cannot be overcome—who knows no sacrifice too great.

What is the meaning of each star in that galaxy? It means, if anything, that the man it represents has some ideal in life for which he is willing to die; it may be his religion or a concrete principle of conduct; it may be his love for wife or child; it may be his country. But, whatever it is, a true soldier holds within his life something that to him is dearer and sweeter than life itself. This is the spirit that animates us in accepting this flag.

We have endeavored to prepare ourselves for the contest that is ahead of us. For medical men to be ready at any indeterminate period must be *always getting ready to go*. For the cause of the medical man in war is always just; and it would be a crime against humanity for the medical department to be unprepared for any eventuality, even had there never been a war in the twentieth century.

This matter of preparedness was impressed upon my mind nearly forty years ago when an intern in Bellevue Hospital. My old professor, Dr. Austin Flint, Sr., of New York, the grandfather of the noted Flints of the present day, once said to a very sick patient possessed of much of this world's goods, which he wished to dispose of, and who was anxious to prepare for the next world, but only in case death were *really approaching*—like some of us medical men perhaps a few years back, who were anxious to prepare for some medical or other crisis in the affairs of the nation, but only in case war was *really approaching*—and Doctor Flint, not wishing to unduly excite the apprehensions of his patient for fear of extinguishing the last ray of hope for his recovery, with infinite tact said to him: "*My dear sir, it is better to be prepared and not go, than to go unprepared.*" Snatching somewhat of the wisdom and infinite tact of that Nestor in Medicine, I have often repeated to myself the lesson of those words, and I conscientiously believe that I have been preparing for the present war from that day to this. *It would appear that it almost antedates the German preparation!*

But, with all our preparations, we have our deficiencies. We are not faultless; we are human. But when conditions are *imperfect*, shall we be dreamers only and with the mere theorists consider that the highest use of knowledge is to bring about an *ideal* condition, in order to secure some advantage; or shall we, with the practical men of affairs, consider that the "*true use of knowledge is to derive all possible advantage from the condition that exists.*"

Hence it is that with all our imperfections, striving after better conditions, and with an unflinching faith in the justice and in the ultimate outcome of our cause, we propose to go forward; and with heartfelt thanks we accept tonight this flag from your hand.

We accept it as a token of your appreciation for what we have done; we accept it as an earnest of what

we shall do; we accept it as a *flag of defiance to his Satanic Majesty of Potsdam*; and we accept it as an *endearing emblem* of the Christianity that *still* is in man and of the humanity that is in Christ.

AMERICA'S PLACE AND PART IN THE WORLD'S WAR.*

RT. REV. C. P. ANDERSON, D. D.

Bishop of Chicago.

Mr. Toastmaster, Ladies and Gentlemen: For some years past I have done considerable public speaking on all sorts of occasions and before all sorts and conditions of people. This is the first time, however, that I have had the distinction of addressing a body of physicians.

When to the large number of physicians present there is added a large number of the wives of the physicians, there is created in the mind of the speaker a condition of mental hazard which may cause him to fizzle his speech. It does not require much skill to address a body of men, but it requires a higher order of intelligence than I possess to speak acceptably to a body of women.

The nearest that I have ever come to addressing physicians was on an occasion many years ago when I was asked to preach a sermon to medical students. Most of you know what a hopeless task that is. My chief difficulty was in finding something of special uniqueness and appropriateness to that particular group. There was, of course, a text ready to hand, but the text bore more directly upon full fledged physicians than on the more innocent students. The text runs as follows: "If a man sins against his maker, let him fall into the hands of the physicians." This was doubtless the worst anathema that the writer could pronounce. It perhaps ought to be said that these words come from those apocryphal writings which are of doubtful authority and they may have been interpolated by some man—not the last man—who was victimized by members of your profession.

Recently I was telling a woman about preaching a sermon in the Bridewell. She was a woman of wealth and fashion and a member of one of our large congregations. "What can you find to say to such people?" she inquired. "Madam," I replied, "I preached the same sermon in the jail in the afternoon that I preached to you in the

* Address before the North Shore Branch, Chicago Medical Society, at patriotic dinner and dedication of service flag, Feb. 16, 1918, at Edgewater Beach Hotel.

morning." So it is that whether we are in jail or out of jail, whether we are rich or poor, whether we are doctors or laymen, whether we wear the picturesque uniform of Colonel Raymond at my left or the civilian clothes of those in front of me—underneath all these externals we are simply men and women. Ninety-nine per cent. of human life and experience, of human joy and sorrow, is common to us as men and women, and only about one per cent. is unique. I shall undertake, therefore, to say little of special appropriateness to doctors. I can put it all in a couple of sentences.

First, I am happy in being associated with a profession that has done such signal service to humankind, a profession which in our own day and in our own country has produced such men as Osler, Hugh Weir Mitchell, Trudeau and Favill and many others who have not only adorned their profession, but have enriched human life.

Second, magnify your office, and when you have magnified your office to the limit, magnify the man behind it. It was said of someone that he was born a man and that he died a mere M. D. Oliver Wendell Holmes once said (I cannot recall the precise words) that when doctors will take what they will give and lawyers give what they will take and preachers practice what they preach, then, put on your ascension robe. All professional men are in danger of becoming over professional. We are apt to become stereotyped and mechanical and coldly formal and lose sight of the personal equation and the human touch and the consciousness of those spiritual capacities and emotions which give dignity and sweetness to life.

This is a patriotic occasion and my theme is "America's Part in the War." If we were to take a composite citizen or an average citizen and trace his mental processes during the last three and one-half years we should probably find him soliloquizing in some such way as this:

If necessary, the United States can raise an army of two millions of men. With such an army our country is safe. I can fold my arms in peace. Later on, he would say: We also need a great navy, we need ships to carry our goods to the uttermost parts of the earth. We need a navy to protect our shores. We have the ability to produce such a navy. We need have no fears. And once more he folds his arms in peace.

Later on the thought occurs to him that the army and navy must have eyes, eyes to see where they are going and what the enemy is doing. Men like Admiral Peary were enlightening the country as to the needs of an air fleet and our average citizen began to wake up and see the need of thousands of aeroplanes and aviators.

About this time conscience began to dawn on our average citizen. Is it sufficient to have an army and navy and an air fleet? What about the character and the calibre of the men in the service? What about their patriotism, their spirit, their loyalty, their devotion, their capacity for service? Great nations have declined and fallen—not because their armies became depleted nor because their ships ceased to be able to control the seas, nor because the treasury became empty and the taxes too high, but because certain immoralities, certain conditions of moral anemia, against which no nation can stand up, had crept into the lives of the people. We must then have our soldiers, sailors and aviators, but they must also be men who have the strength of purity and the victory of self-control.

Then our average citizen goes a step further in the development of his national conscience. Can we keep out of this war? Can a nation be a mere onlooker at a colossal tragedy, a sharer in the spoils, but not a sharer in the sacrifices, without losing its soul? Are we not in danger of losing our moral fibre and our spiritual manhood and our capacity for high ideals?

So he reaches a point of readiness to respond to the high and holy call of duty. "We must," he says, "create an army and a navy and an air fleet and a fine morale amongst the men. But what if our men get wounded or fall a prey to the ravages of disease? This brings us to the specific service of your profession. It brings before our mind the Red Cross in all its activities, the noble band of women engaged in nursing, the doctors employing their skill to prevent wastage in human life and to alleviate suffering.

So our average citizen went from one stage of conviction to another until he reached the point of unswerving loyalty to the cause to which our country is committed. He is now one of many millions who are recognizing the need of men for the army and for the navy and for the air and for the farms and for industries and for every branch of service that will contribute to the victory of a righteous peace. Each branch of the

service must be ready to do honor to every other branch.

The Toastmaster referred to the fact that my son was in aviation in France. In a recent letter he spoke of his job as being the easy one and said I should take off my hat to the men in the trenches. So let each branch of the service, military and civilian, take off its hat to the other. I take off my hat tonight to the medical profession. I salute your service flag. I honor the men that have gone into that necessary branch of service. Well may we give three cheers to the doctors and the nurses.

Our part in the war is to dedicate the life and structure and manhood and resources of the nation to our cause. It is our part to emulate the splendor of France, the courage of Belgium, the persistency of England, the daring of Australia, the sacrifice of Canada. Nations, like men, are known by the company they keep. We are not ashamed of our company.

There were those who thought that we ought not to go into the war. There were others who thought that we should have gone into it at an earlier day. Putting these two things together it is fair to assume that those who are at the center of our administration were in possession of more facts than those at the circumference and that there is an extreme probability that the nation entered the war as soon as there was sufficient assurance that the strength of the country would demand it. What a splendid record has been made since the declaration of war in April, 1917? The manner in which the draft bill carried in our legislative bodies with something approaching unanimity, the manner in which our citizens have responded to the draft, the manner in which billions have been subscribed for Liberty Loans and millions for Red Cross and Y. M. C. A. work and other philanthropic agencies, the manner in which professional men and business men have volunteered their services in the hour of need, the manner in which a homogeneous nation is being formed out of our heterogeneous groups, the manner in which the bulk of our citizens has given allegiance to one cause, one country, one flag—all this is a really thrilling story.

What are we fighting for? It would take a long time to give a complete answer to this question. Let me confine myself to one single thing. We are fighting for the maintenance of our

ideals of civilization. We have ideals. It is frequently said that the American people are sordid and materialistic and earthly, and that they worship the almighty dollar more than the Almighty God. Ladies and gentlemen, it is not for me to try to conceal our many sins. We have them. Nevertheless, as a people, we do stand for ideals. There is probably no nation in the world today more devoted to idealism than the American nation. Let me give you some illustrations:

When the Boxer indemnity was paid, it was returned. By all the traditions of centuries it was ours to keep. It was returned in a spirit of Christian magnanimity and without protest on the part of the people. When Cuba was delivered out of the hands of a bully, it was set free. By all rules of international law, by all the precedents of the past it was ours to have and hold and to keep and to exploit, but it was set free. The Philippine Islands came into our possession. Again by all precedents of history it was ours, but no political party has made any further claim than that our responsibility does not end until their ability for self-government begins.

The American nation has always found its highest well being not in a close calculation of material advantages but in an almost reckless devotion to lofty principle. It has never been obliged to adopt Stephen Decatur's motto, "My country may she always be right but my country right or wrong." Personally, I won't stand for that sentiment. There are times when there are higher virtues than patriotism. Patriotism, as Dr. Johnson said, is sometimes a refuge for scoundrels. We have not been obliged to adopt the above motto because in all our international dealings and in all our great crises we have been in the right. The American nation was born in a struggle for the ideal of political liberty. The Civil War was fought for the ideal of human freedom. The Spanish War was fought for the ideal of humanity. Now the American nation is in a crisis where all these ideals are threatened. We are fighting for political liberty as much as our forefathers did in the American Revolution. We are fighting for human freedom as much as our fathers did when they set the negro free. We are fighting for humanity as much as our army did when we were rescuing Cuba from brutality. All these issues are at stake in the present war. We should be a despised nation, and deservedly

so, did we not rise in all the might of a clear national conscience and say: "In the name of our God we have set up our banners."

We are fighting for our ideals of right and wrong. We hear much about democracy in these days. Our President has said that it is a war on our part "To make the world safe for democracy." It is also a war to make democracy safe for the world. A democracy whose leaders are not honest men, a democracy in which the heart of the people does not beat true would become the worst of all possible tyrannies. Our hope for democracy lies in the fact that in the long run and in the last analysis the judgment of the people is sound and true. It is this sense of the difference between right and wrong which has led the rank and file of our people to support this war. It is not primarily a question of international law, or of European boundaries or of European governments. Those do not concern us here in America. Our people have been asking themselves: "Is such and such a thing right or is it wrong?" Was it right or was it wrong that the Belgian treaty should have been violated? When two men make a contract with each other and one of them violates his contract, is not the foundation of human relations undermined in that instance? When nations enter into a treaty and one nation violates the treaty is not the foundation of international relations undermined? Was it right or was it wrong? Was it right or wrong that the Belgian civilian population should have been deported into industrial slavery? Surely a nation which fought and bled for human freedom will not hesitate in answering that question. Was it right or was it wrong to slaughter nearly a million Armenian men, women and children? Was it a military necessity or was it an unjustifiable wholesale massacre? Was it right or was it wrong to try to promulgate a Holy War against Christians on the part of Mohammedanism? Was this a military necessity or was it the base treachery of a Christian monarch? Was it right or was it wrong to try to involve Japan and Mexico in a war with the United States by intrigue and by lying? Is that conception of the state which overrides individual morality and instigates and justifies barbarous immoralities—is that conception of the state which makes might right, and puts physical force

above spiritual force—is that conception right or wrong?

So we might go on. These are the questions which our people have been asking. The war is a conflict of ideals. We must fight for our ideals or else abandon them. In such a crisis let us rise as one man and swear by the Holy God—not the war god Thor, not the god of Potsdam, not the god of Nietzsche, who said that the enemy's program could not be carried out until Christianity was driven out of the world—but the God of our fathers, that this power which has sprung at the throat of an unsuspecting world, which has devastated and ruined monuments of a Christian civilization, which has massacred its thousands of men, ravished its thousands of women, shall find no footing on our American shores, shall not destroy our cities, shall not corrupt and prussianize our civilization, shall not ravish our women, shall not enthrone its doctrine of might in the world; and that government of the people, for the people and by the people shall not perish from the earth.

YOUR COUNTRY NEEDS YOU

Col. Robert E. Noble, Medical Corps of the U. S. Army, Washington, D. C., says: "We need medical officers, more medical officers, and yet more."

In a letter of recent date, Colonel Noble as head of the Personnel Division of Surgeon General's Office re-affirmed the above statement, and says "It is hard to get physicians to realize the extent of the demand that will be made upon the profession."

It is the patriotic duty, therefore, of every able-bodied physician between the ages of 22 and 55 to do his "bit" by applying for a commission in the Medical Reserve Corps of the Army.

This does not mean that every one will be called to give up his practice and leave the city, but it does mean that the Surgeon General's Office can index each man according to his ability, and use him whenever needed. We want particularly the young men between 22 and 30. Theirs is the opportunity of a lifetime! Instead of trying to explain the rest of their lives how it happened that they did not respond to the call, they will have the proud consciousness for all time to come of having done their duty and demonstrated their loyalty and patriotism.

Communicate by letter with the undersigned for further information.

E. J. DOERING, Major, M. R. C.,
President Board of Medical Examiners, U. S.
Army,
81 East Madison street, Chicago.

\$100 PRIZE

The American Association of Industrial Physicians and Surgeons offers a prize of \$100 for the best thesis on any subject related to Industrial Medicine and Surgery by any undergraduate medical students of the United States.

The thesis must not contain more than 5,000 words.

All theses must be in the hands of the Secretary of the Association by May 1, 1918.

HARRY E. MOCK, M. D., Secretary,
122 S. Michigan Avenue,
Chicago, Ill.

ANNOUNCEMENT ANNUAL MEETING EYE, EAR, NOSE AND THROAT SECTION, AT SPRINGFIELD, TUESDAY, MAY 21 AND WEDNESDAY, MAY 22, 1918.

The officers of the Section of Eye, Ear, Nose and Throat have completed all the arrangements for the coming meeting of the section at Springfield, Tuesday and Wednesday, May 21 and 22, 1918. From every standpoint this meeting will surpass any of the meetings heretofore held.

Tuesday, May 21, 1918, will be Clinic Day. The entire clinical program will be carried on at St. John's Hospital, beginning at 9 a. m., adjourning at 12 o'clock for luncheon, which will be served at the hospital, and resuming promptly at 1:30 p. m., continuing until 5 p. m. The local clinical committee at Springfield have already under way a clinical program which will in variety and from an operative standpoint command the interest of every member of the section. Some of the most distinguished members in our specialty will perform operations and make demonstrations of interesting clinical cases. The members are urged to present any case of interest to the section on this occasion.

Tuesday evening, May 21, 1918, at 6:30 p. m., the annual banquet will be held at the New Leland Hotel. We are not at liberty to state the program which is being prepared for this event, as we are pledged by the local committee to secrecy. We are only permitted at this time to announce that it will be a Gala Event, that no banquet heretofore given by the section will approach the coming one from an oratorical, musical, general entertainment and epicurean standpoint. In confidence we *urge you not to miss this delightful affair.*

Wednesday, May 22, 1918, will be devoted to reading of papers. The program will begin promptly at 9 a. m., and continue until 12 o'clock, resume at 1:30 p. m., continue until 5 p. m. The officers have prepared a strong and splendid program, both essayists and subjects have been selected with unusual care. No effort has been spared to present a program of wide range and scientific value covering the most interesting and important phases of progress in our specialties. In addition to the reading of papers a special time has been allotted to presentations of pathological specimens, microscopical demonstrations, instruments and devices. Any member who desires to make such a demonstration is requested to communicate at once with the secretary or chairman.

It is the earnest hope of the officers of the section that the attendance at the coming meeting will surpass that of any meeting heretofore held.

The officers of the section and local committee at Springfield have with enthusiasm and earnestness made every preparation to make this meeting the banner meeting of our section, and their preparations for the clinic, banquet and scientific program have been carried out with the certain idea that this standard will be attained. It only remains for the section members to show their co-operation by their attendance and interest in order that this result may be obtained.

J. SHELDON CLARK, Chairman,
76 Stephenson Street,
Freeport, Ill.

WESLEY H. PECK, Secretary,
1102, 31 N. State Street,
Chicago, Ill.

AMERICAN MEDICAL ASSOCIATION. THE CHICAGO SESSION.

ADVISORY COMMITTEE ON SCIENTIFIC EXHIBIT.

In order to secure desirable material from various sources for the Scientific Exhibit at the coming meeting, an Advisory Committee on Scientific Exhibit has been appointed, consisting of Dr. Harlow Brooks, New York; Dr. A. S. Warthin, Ann Arbor, Mich.; Dr. George L. Dock, St. Louis; Dr. L. B. Wilson, Rochester, Minn.; Dr. E. R. LeCount, Chicago; Dr. Oskar Klotz, Pittsburgh; Dr. F. P. Gay, Berkeley, Cal.; Dr. C. C. Bass, New Orleans; Dr. W. M. L. Coplin, Philadelphia; Dr. Joseph C. Bloodgood, Baltimore, and Dr. Walter B. Cannon, Boston.

The Scientific Exhibit will occupy the mezzanine of the Hotel Sherman. This will also be the general headquarters of the Chicago session. The available space seems ample, but in order to arrange the space to the best advantage it is desirable that the director of the Scientific Exhibit know early what to expect. Applications should be made at once. Assignment of space will be made Tuesday, April 2, 1918, and all applications must be received before that date.

Those desiring to exhibit work may secure application blanks and further details by addressing Dr. George H. Weaver, Director of Scientific Exhibit, 637 South Wood Street, Chicago.—*Journal A. M. A.*

FATALITIES IN COAL MINES.

During 1917 in the United States 2,695 men while mining coal were killed. This is an increase of 470 over the fatalities in 1916. This increased death rate, according to the Bureau of Mines, is due to the demoralization of the coal mining industry by war-time conditions. Many foreigners returned to their native countries to engage in the war. This necessitated new men, which were generally inexperienced men, to fill their places. Spasmodic flurries in the coal business have also had their share in increasing the death rate in an industry which has always had a high mortality ratio.

MISSISSIPPI VALLEY SANITARIUM
ASSOCIATION.

The Mississippi Valley Sanitarium Association will meet at the Chicago Municipal Tuberculosis Sanitarium, on March 12 and 13.

PROGRAM

March 12—Forenoon

SYMPOSIUM, SANITARIUM ADMINISTRATION

Subject: "Place of the Laboratory in the Sanitarium," by Dr. Maximilian Herzog, Director of Laboratories, Municipal Tuberculosis Sanitarium.

"Practical Graduated Exercise," by Dr. J. Schlesinger, Senior Physician, Cook County Tuberculosis Hospital.

"Education of the Tuberculous Our First Duty and Opportunity," by Dr. Everett Morris, Head Physician Cook County Tuberculosis Hospital.

Afternoon Session

"The Effect of War on the Tuberculosis Sanitarium," by Dr. Eugene B. Pierce, Superintendent Michigan State Sanitarium.

"Is Temporary Construction of Buildings for the Care of the Tuberculous Practical," by a Minnesota physician, to be named later.

Business Session

The evening session to be addressed by Health Commissioner John Dill Robertson, "Suppression Vs. Repression of Tuberculosis in the Community." Discussion of the subject by Dr. W. A. Evans, former Health Commissioner of Chicago.

Wednesday, March 13

Entire day to be devoted to a Symposium on the Tuberculous Child as follows: Forenoon: "How Shall We House the Tuberculous Child," by Dr. Stephen A. Douglass, Superintendent Ohio State Sanitarium.

"Shall the Sanitarium Handle the Contacts," by Dr. John Ritter, Assistant Professor of Medicine, Rush Medical College, Chicago.

"Differentiation of the 'Potentially' Tuberculous Child from the Active Tuberculous Child," by Dr. E. C. Riebel, Physician Chicago Open Air Schools.

Afternoon Session

"Looking Forward into Tuberculosis Sanitarium Work," by Dr. Alfred Henry, Indianapolis, President Mississippi Valley Tuberculosis Association.

"Primary and Secondary Pulmonary Tuberculosis," by Dr. Kennon Dunham, Cincinnati, especially emphasizing the X-Ray phase of the subject.

The officers of the Mississippi Valley Sanitarium Association are:

Dr. J. W. Pettit, Ottawa, Illinois, President;

Dr. Robinson Bosworth, St. Paul, Minn., Vice-President;

Dr. W. H. Watterson, Secretary and Treasurer.

This is the first mid-winter session of this Association, which was recently organized at Louisville, Kentucky, and is affiliated with the Mississippi Valley Sanitarium Conference.

W. H. WATTERSON,
Medical Superintendent.

Secretary Mississippi Valley Sanitarium Association.

ILLINOIS PREPARING FOR LIBERTY LOAN.

The fifty-seven counties of northern and central Illinois lying within the Seventh Federal Reserve District are making rapid progress in the work of organizing for the third Liberty Loan campaign. Heman Gifford, Federal Reserve Director of Sales for Illinois, is confident that the state of Lincoln and Grant will be found to have gone "over the top" when final tabulations of war-bond subscriptions are made. The pre-campaign enthusiasm thus far shown is of one variety—not fifty-seven—and Mr. Gifford believes that this enthusiasm given vent through practical channels will result in the expected aid to the Government in its prosecution of the war for the freedom of the world.

"We have appointed chairmen in forty-five of our fifty-seven counties," said Mr. Gifford, in outlining the organization work," and we expect to select the remainder within the next week or ten days. Our chairmen already have held meetings in a number of counties and are reporting to us complete organization of their township committees.

"Illinois did not subscribe its full share of either the first or second Liberty Loans. In the last campaign we fell approximately \$20,000,000 behind. We are now approaching a further test of our patriotism which will be even more severe. Our committees will go into the new campaign fully realizing their task, but firm in the belief that the patriotism and loyalty of the people of Illinois will accomplish the desired result.

"It has been charged that the farmers of Illinois have not given full support to Liberty bonds. While this undoubtedly has been a fact in many localities, our records show that in counties where the campaign was well organized subscriptions from farmers were excellent, and we feel confident that this time, with better organization everywhere, they will be greatly increased.

"The same situation exists in communities where there are many people of German ancestry. During

the first campaign subscriptions from these communities were very small; yet many of the people subscribed their full shares in the second campaign. The issues involved in the war have now become more clear, and we are confident that every community of this kind in the state will welcome the new opportunity to give practical expression to its Americanism."

Society Proceedings

COOK COUNTY

Chicago Medical Society.

Joint Meeting of the Chicago Pathological Society and the Chicago Medical Society, Feb. 6, 1918.

Bovine Tuberculosis, Its Diagnosis and Control—V. A. Moore, Dean of the New York Veterinary College at Cornell College.

Regular Meeting, Feb. 13, 1918.

1. The Medical Situation at Camp Grant.—Major Wm. L. Baum, Camp Grant, Ill.
2. Problems of the Medical Officer of the Navy.—Medical Inspector H. E. Odell, U. S. N., Great Lakes, Ill.
3. Method of Controlling Communicable Diseases at Camp Custer.—Major James F. Edwards, Camp Custer, Mich.
4. Points in the Epidemiology of Meningitis.—Surgeon O. J. Mink, U. S. N., Great Lakes, Ill.
5. Pneumonia.—Major Jos. L. Miller, Camp Dodge, Iowa.

Regular Meeting, Feb. 20, 1918.

1. Suppuration of the Attic of the Middle Ear.—Otto T. Freer.
Discussion—W. G. Reeder.
2. Major Plastics of the Abdominal Wall.—Weller Van Hook.
Discussion—Bayard Holmes.
3. Plastic Surgery.—Lawrence Ryan.
Discussion—T. A. Davis, Ed. H. Ochsner.
4. Building Character in the Army.—Allen D. Albert, Representing War and Navy Dept., Com. on Training Camp Activities.

Regular Meeting, Feb. 27, 1918.

SYMPOSIUM ON BILIARY SURGERY.

1. Medical Aspects of Diseases of the Bile-Tract.—Edward F. Wells.
2. Secondary Operations on the Biliary Tract at the Mayo Clinic.—E. Starr Judd, Rochester, Minn.
3. The Technic of Opening the Common Duct.—(Illustrated by Motion Pictures.) Daniel Eisen-drath.
Discussion—A. J. Ochsner, A. D. Bevan and J. B. Herrick.

The attention of the members of the Society is called to the announcement on the next page of the dinner to be given in honor of Dr. E. Starr Judd of the Mayo Clinic.

MADISON COUNTY

Our February Meeting.

The Madison County Medical Society met at the Elks' Club in Granite City on February 1, 1918, with President Dr. J. H. Siegel in the Chair.

Twenty-four members and two visitors were present. Dr. Groves Blake Smith was elected to membership.

On motion of Dr. W. H. C. Smith, the secretary was instructed to prepare a petition to be presented to our supervisors, asking that the proposition to secure a county tuberculosis sanitarium under the Glackin Law be submitted at the next general election.

Dr. R. D. Luster, executive secretary of Red Cross seals, made a report on the sales of 1917, which was ordered published and a rising vote of thanks was given to Dr. Luster. Dr. Luster was requested to write a letter conveying the thanks of this society to each individual helper in the Red Cross Seal Campaign. Dr. Henry Schwarz of St. Louis then gave a most instructive address on "Cancer of the Uterus," and the possibility of cure if taken at its earliest stages. He fully discussed the use of radium and x-ray. After a most thorough discussion a vote of thanks was tendered the distinguished speaker. Also a vote of thanks was given to the Elks for the use of their commodious club rooms.

Our service flag, now containing twelve stars, is displayed at every one of our monthly meetings. This means that over 12 per cent. of our members are now in government service. Attached to the flag is the roll of honor on which is placed the name, rank and present address of each man who has answered his country's call.

The Government is still calling for competent physicians and surgeons and our men are ready to obey the call when it comes. The time is not far off when the number of stars on our flag will and must be doubled.

RED CROSS SEAL CAMPAIGN, 1917

Dr. R. D. Luster, executive secretary of the Red Cross Seal Campaign for 1917, submits the following statement as the result of his efforts. As will be seen by the figures, a great gain was made over the amount secured in 1916, and Dr. Luster and his force of distributors deserve the thanks and appreciation of our Society for the remarkable success that crowned their efforts.

RED CROSS SEAL STATEMENT.

Sold to distributors.....	\$3,080.52
Sold to Dr. Fiegenbaum.....	20.00
Sold by rural school children.....	376.60
Sold to unknown parties.....	.15
Total	\$3,477.27
Sent to State Society, 22½ per cent.....	782.39
Retained in local treasury.....	\$2,695.88

COMPARISON.

347,727 seals sold in 1917.....	\$3,477.27
160,214 seals sold in 1916.....	1,602.14
Gain over last year.....	\$1,875.13

PIKE COUNTY

The Pike County Medical Society met at the office of the secretary in Pittsfield on January 31, 1918.

Owing to the weather conditions and the busy season, only a few were present as compared with the usual attendance. However, this was compensated for the lively interest taken in the problems of quarantine and other matters of much importance to the people as well as the profession. The chief topic, as already indicated, was the new quarantine laws of Illinois. This subject was brought forward by Dr. F. N. Welk of Pittsfield and ably presented, and further discussed by all members present. So much interest was taken that it was nearly 6 p. m. before the Society adjourned.

A paper to be presented by Dr. L. Lacy of Pittsfield had to be deferred to some future time. The next meeting of the Society will be at Pittsfield, when it is expected a very large attendance is assured.

W. E. SHASTID, *Secretary*.

ST. CLAIR COUNTY

The annual meeting of the St. Clair County Medical Society was held at the Elks' Club, East St. Louis, on Thursday, January 10, 1918. The vice-president, Dr. Walter Wilhelmj called the meeting to order.

A communication from the secretary of the State Society, in regard to the payment of dues in the State Society of those members now in the army, was tabled on account of the deplorable condition of the treasury. A committee was appointed to investigate why certain information asked by some insurance companies in regard to the family history and other conditions of their clients should be given by members of this Society.

Inspector J. W. Follmer, for the Board of Registration and Education, addressed the Society, outlining the work he has done in this county. Mr. Follmer is an energetic and very efficient officer, and was highly complimented for his excellent results.

The yearly report of the secretary-treasurer was read and approved.

The following officers were elected for the ensuing year: President, Dr. Walter Wilhelmj; vice-president, Dr. J. H. Grum; secretary-treasurer, Dr. A. E. Hansing, re-elected all by acclamation. Board of Censors: Drs. R. L. Campbell, Harvey T. Smith and L. J. Wiggins. Program Committee: Drs. A. E. Rives, J. W. Rendleman and C. S. Kaggs.

Dr. R. L. Campbell read a very interesting and highly scientific paper and reported cases on heart block. The paper was discussed by the members present.

A. E. HANSING, *Secy.-Treas.*

Personals

Dr. and Mrs. Hugh T. Patrick, Chicago, are spending the winter in California.

Dr. and Mrs. C. W. Cargill, of Mason City, are spending the winter in St. Petersburg, Florida.

Major John M. Dodson has succeeded Dr. Frank Billings as medical aid to the governor of Illinois.

Dr. George D. J. Griffin, Chicago, was refused a commission in the M. R. C., on account of defective vision.

Dr. Travy Hamilton Clark has been appointed president of the medical section of the National Fraternity Congress.

First Lieut. R. C. Dienst, M. R. C., of Aurora, is in the aviation section, U. S. A., and is located at Camp Dallas, Tex.

Captain, Medical Corps—George L. A. Dale, 30 North Michigan avenue, and Louis J. Pritzker, 4817 Sheridan road.

Dr. A. A. Lowenthal, of Kankakee and Chicago, and family went to Los Angeles, early in February for a long stay.

Dr. Howard Knight, Elgin, has been commissioned in the Medical Reserve Corps and is located at Camp Dodge, Iowa.

Drs. Bernard J. Kulasaviez and Patrick T. McCarthy, of Chicago, were commissioned first lieutenants, M. R. C., Feb. 20.

Dr. Frank Smithies has been appointed associate professor of medicine in the School of Medicine of the University of Illinois.

Dr. Arthur S. Campbell, Cook County Tuberculosis Hospital, Lake Forest, was commissioned first lieutenant, M. R. C., Feb. 14.

Dr. W. E. Kendall, of New Holland, has been commissioned captain and surgeon of the 131st infantry at Camp Logan, Houston, Tex.

Dr. Anton Mueller, Chicago, has been appointed an instructor in the First Aid Division of the American National Red Cross, Chicago Chapter.

Dr. William W. Quinlan, medical referee of the Mutual Life Insurance Company of New York, has been made supervising referee of the company for the territory west of Chicago.

Major Kellogg Speed, M. R. C., U. S. Army, is reported making satisfactory progress toward recovery from a severe gas bacillus infection received November 8, while performing an amputation.

Capt. W. S. Brown, M. R. C., who spent several months in training at Camp Dodge and Fort Riley, has been discharged from the service for

physical disability and has resumed practice in Elgin.

Dr. James M. Hancock, Chicago, is recovering from severe shot wounds inflicted by robbers February 2. The doctor was passing in his auto when the robbers were trying to escape from the police.

Dr. Bernice Curry, of Bloomington, has been appointed medical director of the tuberculosis dispensary which opened January 2. The building of a tuberculosis sanitarium will be begun in the spring.

Lieut. Karl J. Henriksen, M. R. C., assigned to the Twentieth Engineers, who was formerly on duty in the office of the attending surgeon, Chicago, was one of the rescued passengers of the ill-fated *Tuscania*.

Dr. W. T. Dowdall, East St. Louis, surgeon for the Illinois Central Railroad, has been given a Captain's commission in the Medical Reserve Corps of the United States Army. We have not learned to what station he has been attached.

Capt. James H. Williamson, M. R. C., of Danville, is said to be the fourth physician from the Temple building to receive commissions. The others are Dr. H. S. Babcock, now with Battery A in France, Dr. Francis Barton and Dr. Melvin Hole, both at Fort Riley, Kansas.

The following members of the McLean County Medical Society are in the military service: Drs. R. A. Noble, A. R. Freeman, Harry L. Howell, A. E. Rogers, T. D. Cantrell and W. H. Gardner of Bloomington; M. Wallis and E. M. Sayers of Normal; and E. R. Herrman of Stanford.

Dr. Frank R. Morton, secretary of the North Shore Branch, Chicago Medical Society, is chairman of a committee to solicit funds from physicians for a war recreation fund. One object of the fund is the maintenance of a club house for soldiers and sailors. Other chairmen will represent other professions and industries.

Dr. A. C. Armbruster of Collinsville, after a training course at Ft. Riley, Kan., and a further course of instruction at Camp Bowie, Fort Worth, Texas, was promoted to the rank of Captain. On his final examination he was honorably discharged by reason of underweight and has resumed his practice in Collinsville.

Five Chicagoans were given commissions in the

Officers' Reserve corps by the war department Feb. 7, as follows: Major, Medical Corps—Dr. Rollin T. Woodyatt, 104 South Michigan avenue.

1st Lieut., Medical Corps—Dr. Henry S. Blease, Illinois Stael Company hospital; William J. Quigley, 5000 West Monroe street; George W. Scrupham, Cook county hospital.

First Lieut. W. J. Rideout, M. R. C., of Freeport, has been assigned to temporary duty at the base hospital at Camp Hancock, Augusta, Ga. Members of the Stephenson County Medical Society, the school board, directors of the Stephenson County Red Cross chapter, of which he is president, church friends and the high school band gave him an ovation, testifying to their high regard for him as a physician and neighbor for the past twenty years.

Dr. Alice Barlow Brown, Winnetka, has been in France for several months looking after the women and children back of the fighting line on the western front. The funds for Dr. Brown's work have been raised by Winnetka people through the chart system and the gift shop that has been established. A Winnetka dispensary has been established back of the lines near Toul, and at Toul and Nancy, Dr. Brown looks after more than 300 women and children a week.

1st Lieut., Medical Corps—Walter D. Bayard, 735 Fullerton avenue; Jesse O. Bailiff, 324 Stanley terrace; Bernard Benkendorff, 1535 North Kostner avenue; John T. Brosnan, 4910 Washington boulevard; Francis V. Carberry, 3800 Prairie avenue; Blaine Claypool, Wesley Memorial hospital; Michael A. Galgano, 1201 West Grand avenue; Henry G. Lescher, 4900 Thomas street; Thomas P. O'Connor, 3324 West Monroe street; Eugene B. Perry, Michael Reese hospital; John L. Webb, 2814 Ellis avenue; Gustav W. Lawson, 5201 North Clark street; William H. Taylor, 4458 North Kedzie avenue.

News Notes

—More than 8,000 women physicians are said to have enlisted in the volunteer medical service corps.

—"Dr." Pierre Kogłowski, said to belong to the ancient and ignoble order of Chicago quacks, was arrested by the federal authorities for disloyalty.

—The St. Paul Medical Journal has been discontinued to clear the field for *Minnesota Medicine*, the Journal of the Minnesota State Medical Association.

—Prof. H. C. Sherman of Columbia University gave an address on "Fundamental Requirements in Human Nutrition" before the Institute of Medicine of Chicago, February 27.

—Dr. Thomas Balhatchet and Dr. Charles W. Clark, of Chicago, arrested in connection with the death of a woman from an operation, were released by the verdict of a cononer's jury.

—Nineteen cases of smallpox have occurred recently in the Bethany Bible School of the Church of the Brethren. Smallpox is no respecter of anyone's "belief" in vaccination, but it never tackles the vaccinated.

—Miss Julia Lathrop, chief of the Children's bureau of the department of labor, has a plan for saving the lives of 100,000 babies this year. The quota for Illinois is said to be 5,625. Here's strength to her arm!

—It is reported that the Jenner Medical College and the Chicago Hospital College of Medicine have been merged and that the two institutions are now located at the site heretofore occupied by the latter.

—At the annual meeting of the Otolological, Laryngological and Rhinological Society, Dr. Frank Allport was elected president; Dr. Charles H. Long, vice-president, and Dr. Edward P. Norcross, secretary-treasurer.

—A report from a high army official recently returned from France is to the effect that hospital unit No. 12, headed by Dr. F. A. Besley, has not had a single case of violation of regulations since going into active service.

—At the meeting of the physicians of Madison County in Granite City, February 2, it was decided to take advantage of the law recently passed by the Illinois State Medical Board, to petition for the establishment of a tuberculosis sanatorium for the county.

—Seven hundred citizens of Chicago, natives of Ricigliano, Italy, near Naples, presented a check for \$2,200 to Judge Barasa for the Italian Red Cross ambulance, in honor of Dr. Aurelio Pagano, who left Chicago last October as a lieutenant in the Italian army.

—Ernest P. Handl pleaded guilty to practicing medicine without a license and was fined \$50 and costs, Jan. 16. Mrs. Bertha Roeske, for the same offense was fined \$25, Feb. 7. Martin Kraus, an alleged spiritualist, was fined \$100 and costs. All these worthies hailed from Chicago.

—The state department of registration and education revoked the licenses of Drs. Leon T. Burgess, Isaak W. Hodgens and Arthur L. Blunt, February 9. Here endeth the first lesson, and it was from the "old testament." Now hurry up with the new gospel and try that on the quacks.

—Physicians, actors and clergymen, came together, February 7, at the first meeting of the Red League, held at the City Club, in a campaign to restrict venereal disease. The league has decided to open a venereal clinic at 118 West Grand Avenue, supplementing the work of the clinic recently established by the city.

—At the thirty-first meeting of the Robert Koch Society for the Study and Prevention of Tuberculosis, held February 21, at the City Club, a paper was read by Dr. Max Biesenthal on "Non-tuberculous Lesions of the Lungs, Diagnosed Tuberculous." Discussions were also held on "Clinical Findings," "Roentgen Ray" and "Complement Fixation."

—Major Horace D. Arnold, of Boston, at the meeting of the Association of American Medical Colleges, Feb. 4, advocated speeding up the courses in medical colleges to meet the urgent need of more qualified medical men. He suggested having three terms of four months each for three years, instead of spreading the course over four years with summer vacations.

—Governor Lowden held an extended conference, Feb. 18, with a delegation of public officials, including the special Chicago council sub-committee on crime, to discuss Chicago crime conditions and remedies. The conferees expressed their confidence that closer co-operation between the city courts and State officials would overcome some of the features of the parole law that have caused the courts and police much trouble. Chief Justice Olson advocated farm colonies for the permanent segregation of the mental defectives which recruit the worst type of gunmen.

—The annual meeting of the Chicago Tuberculosis Institute was held, January 31, and the following officers were elected: President, Dr.

Robert H. Babcock (re-elected); vice-presidents, Drs. Ethan A. Gray and Edwin W. Ryerson; secretary, Mr. George W. Perkins; treasurer, Mr. David R. Forgan; executive committee, Drs. Ethan A. Gray, Robert H. Babcock, William A. Evans, O. W. McMichael, Stephen R. Pietrowicz, Edwin M. Ryerson, Mrs. James L. Houghteling, Mr. George W. Perkins, Mr. Horace K. Tenney, and board of directors, Drs. George W. Babcock, William A. Pusey, Max Biesenthal and Stephen R. Pietrowicz, and Mrs. E. C. Dudley, Miss Anna Fitzgerald, Mrs. James L. Houghteling and Messrs. G. A. Ranney, Horace K. Tenney and Matthew Woll. The receipts for the year were \$120,879, and the disbursements, \$105,532.

—Dr. F. Truby King, superintendent of the Royal New Zealand Society for the Health of Women and Children, visited Chicago, Feb. 5 and 6, and addressed the infant welfare division of the Council of National Defense, the City Club and the nurses of the Health Department, in the Council Chamber, in the interest of more effective work in reducing the mortality of infants to the phenomenal rates prevalent in New Zealand. The credit of the low rate there is due to the society of which he is president and he attributed its success to the publicity freely accorded by the press and the very progressive and sympathetic interest of all classes of the people who vote abundant funds, enabling mothers before and after confinement to be free from work and care and providing skilled nursing and medical attendance for all classes. He advocated the instruction of girls in the duties of motherhood regardless of social standing.

—The Medical Women's club of Chicago entertained at dinner Feb. 13, in honor of the officers of the Chicago Medical society and the medical officers of the army and navy. Maj. Franklin H. Martin, M. D., M. R. C., chairman general medical board, council of national defense, and Mrs. Martin; E. B. Coolley, M. D., president Illinois State Medical society, and Mrs. Coolley; Charles E. Humiston, M. D., president Chicago Medical society, and Mrs. Humiston; William Allen Pusey, M. D., president-elect Chicago Medical society, and Mrs. Pusey; J. V. Fowler, M. D., secretary Chicago Medical society, and Mrs. Fowler; John S. Nagel, M. D., treasurer Chicago Medical society, and Mrs. Nagel; Maj. James J. Edwards, M. D., M. R. C., sanitary inspector,

Camp Custer; Maj. William L. Baum, M. D., M. R. C., Camp Grant; Medical Inspector H. E. Odell, U. S. N., Great Lakes, and Surgeon O. J. Mink, U. S. N., Great Lakes, were guests of honor.

Marriages

VICTOR LUPU SCHRAGER, M. D., to Mrs. Jean Rowland both of Chicago, January 25.

FLOYD ALBERT SMITH, M. D., to Miss Edna H. McCann, both of Canton, Ill., January 1.

LIEUT. HARRY ANTHONY DURKIN, M. D., M. R. C., U. S. Army, to Miss Rose M. Fleming, both of Peoria, Ill., February 1.

Deaths

THOMAS A. LILLY, M. D., Chicago; Kentucky School of Medicine, Louisville, 1864; aged 80; physician to Sacred Heart Convent and St. Joseph's Home, Chicago; died at his home, February 6.

GUSTAV A. FISCHER, M. D., Chicago; University of Prague, Bohemia, 1871; aged 72; died at his home, January 31, from cerebral hemorrhage; formerly a member of the Illinois State Medical Society.

RUFUS A. DUMARS, M. D., Peoria; University of Pennsylvania, Dept. of Med., Philadelphia, 1877; aged 68; a member of the Illinois State Medical Society; died at St. Francis Hospital, January 31, from gallstone disease.

ANTHONY JOHN JINDRA, M. D., Chicago; Northwestern University Medical School; Chicago, 1917; aged 25; an interne at the Cook County Hospital; was killed at the hospital by a shot from a revolver in the hands of Miss Paulina Plotka.

BUFORD H. WILLIAMS, M. D., Hamburg, Ill.; College of Physicians, Keokuk, Iowa, 1878; aged 72 years; a practitioner over thirty years in Calhoun county; retired from practice ten years ago. He was for some years president of the State Bank of Hamburg. Died at his home, January 23.

LIEUT. ELLSWORTH JOSIAH CARROLL, M. D., M. R. C., U. S. Army, Eureka, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1889; aged 53; who was on active service on duty at Camp McArthur, Waco, Tex., and attached to the aero squadron; died at Camp McArthur, February 13, from spinal meningitis.

MILTON H. AUTER, M. D., Galesburg, Ill.; Howard University, Washington, D. C., 1905; aged 38; a colored practitioner; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; died at the home of his father at Harrisburg, Pa., January 17, from the effects of a gunshot wound of the heart, self-inflicted, it is believed, with suicidal intent.

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CHICAGO, ILL., APRIL, 1918

No. 4

Original Articles

THE ATTIC OF THE MIDDLE EAR; ITS SUPPURATIVE CONDITIONS.*

OTTO T. FREER, M. D.

CHICAGO.

Some knowledge of the acute and chronic suppurations of the attic of the middle ear is of importance to all physicians, for they should be able to tell when an acute middle ear suppuration is of the dangerous type that has invaded the attic and is hence liable to lead to mastoiditis, while by an understanding of the nature of chronic attic suppuration they could counteract the too frequently given advice, that nothing but a radical mastoid operation, with its usual result of partial or nearly complete deafness of the affected ear, will save patients with chronic attic suppuration, although, as a matter of fact, most such cases get well under local treatment with or without the help of minor operations.

Anatomy of the attic: The intricacy of the anatomical structure of the attic, due to the complex of pockets and compartments created by the ossicles, their ligaments and accompanying mucous membrane folds, has made the understanding of the topography of the attic so difficult that a number of the foremost otologists have, since 1847, felt impelled to devote much study to the subject and the researches of Helmholtz, Prussak, von Tröltzsch, Politzer, Siebenmann, Schwalbe, Merkel, Kretschmann and most recently in 1910, Marie Köbele on the impulse of Kümmel have all combined to give as clear a picture as possible of the puzzling and varying anatomy of the attic.

In the nomenclature the attic is called the recessus epitympanicus. It is also spoken of as the epitympanum, the aditus, and cavum epitym-

panicum. Convenience has made the term attic the usual designation.

The attic is divided into an outer and inner compartment by the superior incudo-malleolar fold. The outer compartment is called the pars cupularis, cupula (German, Kuppelraum), malleo-incudal-squamous space (German, Hammer-Amboss-Schuppenraum) external attic (Politzer).

The attic extends downward to the level of the horizontal part of the Fallopian canal and to the tendon of the tensor tympani muscle. Below this level lies the mesotympanic portion of the tympanic cavity. The long diameter of the attic is a continuation of the axis of the Eustachian tube projected through the cavum tympani.

The roof of the attic is the tegmen tympani, its major inner part being derived from the petrous portion of the temporal bone, only a narrow strip externally belonging to the squamous portion. In childhood the fissura petro-squamosa separates the petrous from the squamous portion, vessels and connective tissue being transmitted from the dura into the cavum tympani through this fissure.

A transverse curved ridge (crista transversa tympani) on the under surface of the tegmen gives attachment to a mucous membrane fold descending to the tendon of the tensor tympani muscle (Fig. 1, A, T.), called the tensor fold.

The inner wall of the attic belongs to the pars petrosa and is formed of the compact bone of the capsule of the labyrinth. In its posterior part it contains the facial nerve in the Fallopian canal and, posteriorly and above the facial nerve, the horizontal semicircular canal, the location of both of these structures being indicated by bulges into the attic.

The external wall of the attic is formed by the squamous portion of the temporal bone, the superior wall of the external auditory meatus

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bending abruptly upwards at its innermost end, the inner surface of the corner so made (plate of the external auditory meatus, Sexton) forming the outer wall of the attic and being hollowed into a niche to contain the malleo-incudal body. (Logette des osselets, Gelle), (Fig. 1, L.) Below, the attic wall terminates in the smooth, rounded edge of the incisura tympanica, also called margo tympanicus (incisura Rivini), this smooth edge representing the open space in the incomplete ring of the tympanic bone (Fig. 2), which forms in early childhood the annulus tym-

panicus. The incisura tympanica gives attachment to the membrana flaccida (Shrapnell's membrane), (Fig. 3, F; Fig. 4, S; Fig. 9, S), and is not grooved as is the bony frame of the pars tensa of the membrana tympani formed by the tympanic bone. The membrana flaccida forms the outer boundary of Prussak's space (recessus membranæ tympani superior), (Fig. 4, P.) and so becomes part of the outer boundary of the attic in the instances where Prussak's space opens into the attic, as it often does (Fig. 7, L.). The attic is bounded anteriorly by the tendon



Figure 1. View into the attic from above and behind after removal of the tegmen tympani and upper part of the inner wall of the tympanic cavity down to the footplate of the stapes, opening the vestibule V and showing the first turn of the cochlea. The division of the attic into an outer one, L, and an inner one internal to the malleo-incudal body is shown; L, external attic showing its external wall hollowed to form the niche of the ossicles; S, superior ligament of the malleus and superior incudal ligament blended; A, tensor tympani fold descending from the transverse ridge of the tegmen tympani to the tendon of the tensor tympani muscle, with aperture at A connecting inner attic with the tubal part of the tympanic cavity (pars sellaris). T, tensor tympani tendon; I, stapes fold with the fold of the chorda tympani, C, helping to form a partial floor for the inner attic. C, chorda tympani and chorda fold attached to the long process of the incus; M, stapedius muscle; F, facial nerve. Original drawing from a specimen from the collection of Dr. W. G. Reeder.

of the tensor tympani muscle, by the crista transversa of the tegmen tympani which lies vertically above the tensor tympani tendon and transversely under the tegmen tympani and by the tensor fold which consists of a number of

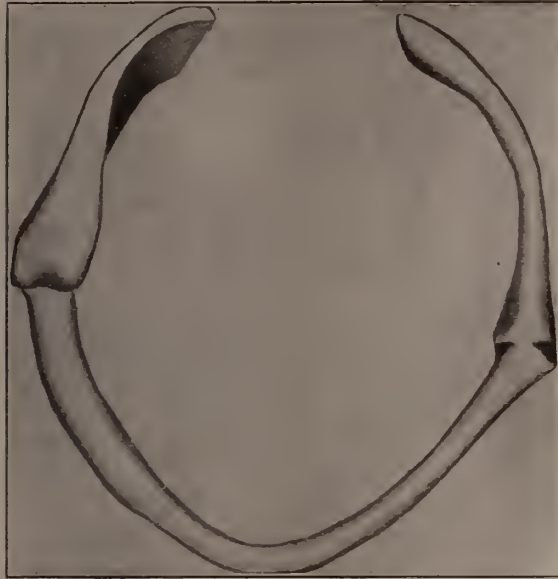


Figure 2. Tympanic bone (annulus tympanicus). After Politzer.

variable transverse folds of mucous membrane (Fig. 1, A; Fig. 7, O.) that unite the tensor tympani tendon to the crista transversa, so creating a screen which lies partly across the long axis of the attic. This screen is not complete, an aperture remaining (Fig. 1, A.) which connects the attic with the tensor tympani and tubal part of the tympanic cavity, or pars sellaris as it is also called.

Posteriorly the attic merges into the antrum tympanicum without distinct boundary, the antrum proper beginning at the short process of the incus. (Fig. 1, P; Fig. 5, X; Fig. 6, B, B'.)

The floor of the attic lies at a higher level than its lower boundary and is formed by the malleus and incus joined to make the malleo-incudal body and by the ligaments and mucous membrane folds holding these bones in place. (Fig. 6.)

The ligaments of the malleus are: 1. The ligamentum mallei superius which ascends from the peak of the head of the malleus to the roof of the attic. (Fig. 1, S; Fig. 5); 2, the axial ligament of Helmholtz which is composed of two bands, one of them a strong tendinous one, the

ligamentum mallei anterior (Fig. 6, L.), extending from the spina tympanica posterior of the annulus tympanicus to the neck of the malleus; the second, the ligamentum mallei laterale (Politzer) or posterior (Helmholtz), extending from the external wall of the attic to the neck of the malleus. (Fig. 6, E.) This ligament is the check against excessive external rotation of the malleus. Fibrous strands extending between these two ligaments to the margo tympanicus are called the ligamentum mallei externum; 3, the ligamentum petrotympanicum of the malleus is a fourth ligament that represents the remains of the processus longus of the malleus (Meckel's cartilage), (Fig. 7, T.) absorbed in early childhood, and extends from the head of the malleus through the fissura petrotympanica or Glaserian fissure, sometimes even into the maxillary articulation.

The incus possesses the ligamentum incudis posterius (Fig. 6, B, B'), which attaches the

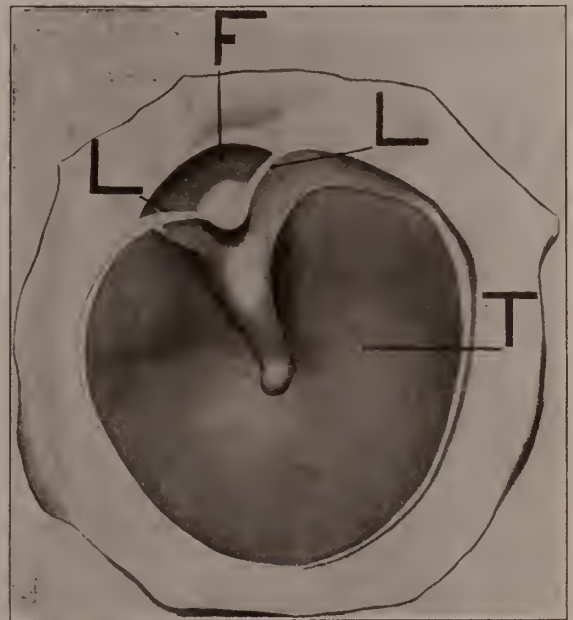


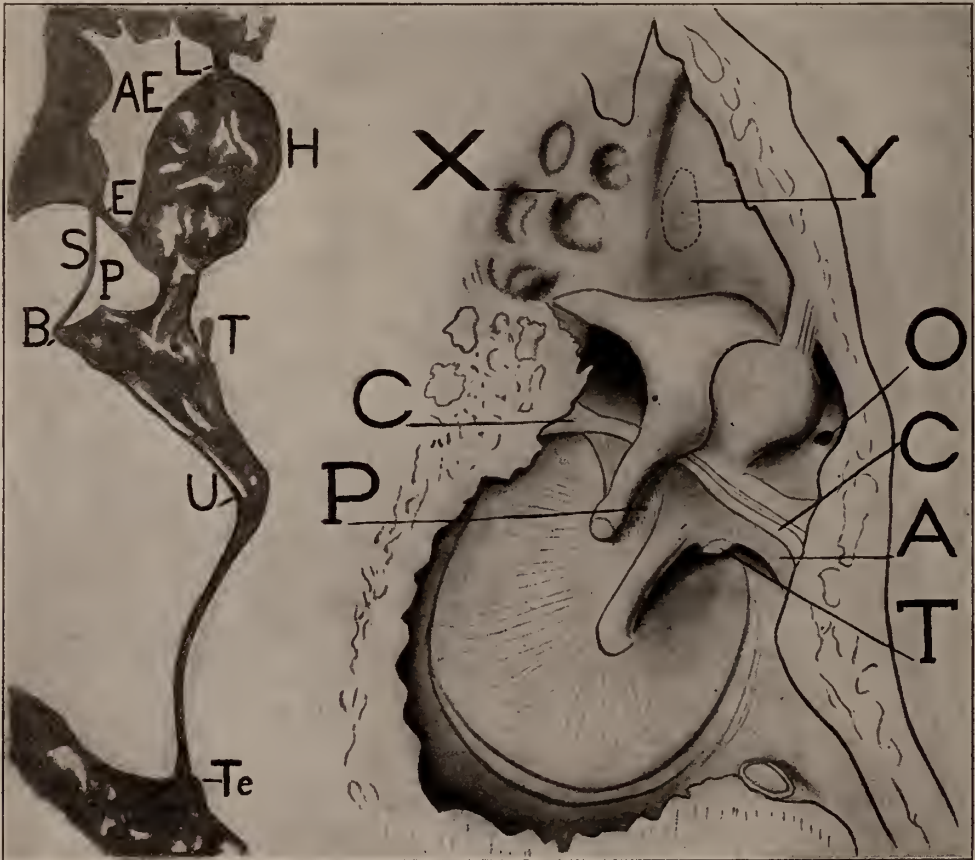
Figure 3. The tympanic membrane. F, membrana flaccida (Shrapnelli); L, L, anterior and posterior gray lines showing anterior and posterior limits of the membrana flaccida and the anterior and posterior boundaries of the posterior and anterior malleolar folds; T, pars tensa of the membrana tympani. After Politzer.

short process of the incus to the recess in the posterior wall of the tympanic cavity which lies just below the entrance to the antrum tympanicum. This ligament consists of two bands extending outwardly and inwardly.

Between the upper surface of the malleo-incudal body and the tegmen tympani, extending backward for a variable distance from the ligamentum mallei superius, is found the ligamentum incudis superius. (Fig. 1, S; Fig. 8, S.) It is not a true ligament, but a mucous membrane fold and it separates the attic longitudinally into an internal attic (Fig. 1; Fig. 6) and an external one called the pars cupularis or malleo-incudal squamous space. (Fig. 1, L; Fig. 6, F; Fig. 4, A, E; Fig. 5, Fig. 8.) The superior incudal ligament reaches, in some cases, as far back as the entrance to the tympanic antrum (Fig. 8, S), in other cases being merely indicated (Fig. 1). No ligaments connect the mal-

leus or incus with the inner wall of the attic, but variable mucous membrane folds are often extended between them, especially the so-called chorda fold and stapes fold, a partial floor for the inner attic being thus formed with an aperture or apertures of variable size leading into the mesotympanum. (Fig. 1, C. I.)

The floor of the external attic (Fig. 6, L, E, F.) is formed by the ligaments described and by the lateral malleolar and incudal folds that extend from the malleus and incus to the margo tympanicus or just below it to the inner surface of the membrana flaccida. As shown by Politzer, if these folds blend, the floor of the external attic is complete and it opens into the tympanic



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Figure 4. Section through the malleus, the membrana tympani and the external attic. H, head of the malleus; Te, annulus tendineus of the membrana tympani; B, processus brevis mallei; U, umbo; T, chorda tympani; L, ligamentum mallei superius; E, ligamentum mallei externum; S, membrana flaccida (Shrapnelli); AE, external attic; P, Prussak's space. After Politzer.

Figure 5. View of the membrana tympani, malleus, incus and external attic from within. C, C, chorda tympani; A, anterior malleolar fold; T, attachment of tendon of the tensor tympani muscle; Y, dotted line showing the position of the outlet of the external attic into the meso-tampanum when a gap exists between the external malleolar and external incudal folds; O, anterior outlet of attic into mesotympanum found in some cases; P, posterior malleolar fold; X, the external wall of the antrum tympanicum. After Merkel.

antrum, having only an indirect communication with the mesotympanum through the inner attic, so that if this communication is blocked, pus in the external attic would be liable to be dammed back into the tympanic antrum and the mastoid cells and would have to escape externally by perforation of the membrana flaccida or above it under the margo tympanicus. If a gap (Fig. 5, Y.) exists between the external lateral folds of the malleus and incus, the external attic can drain directly into the mesotympanum.

In close connection with the floor of the external attic below are the three pockets or recesses of the membrana tympani, the posterior and anterior pockets of von Tröltzsch and the superior pocket of Prussak or Prussak's space. These pockets are called respectively in the nomenclature, the recessus membranae tympani posterior, anterior and superior. The anterior and posterior pockets represent the space between the pars tensa of the membrana tympani and folds arising from its anterior, superior and posterior superior attachments, these folds being duplicatures of the substantia propria of the membrana tympani and called the plica malleolaris anterior (Fig. 5, A; Fig. 9, A.) and posterior (Fig. 5, P; Fig. 7, F; Fig. 9, P.) in the nomenclature, but for convenience they are commonly called the anterior and posterior folds.

The recessus membranae tympani superior, or Prussak's space (Fig. 9, S; Fig. 4, P; Fig. 7, L.) is bounded externally by the membrana flaccida, inwardly by the neck of the malleus and below by the processus brevis of the malleus. Its anterior and posterior boundaries are visible by direct inspection of the membrana tympani (Fig. 3, L, L.) and appear as two grayish lines forming a V that extend from the anterior and posterior limit of the margo tympanicus above to the processus brevis below. The anterior and posterior gray lines indicate where the anterior and posterior pockets lie against Prussak's space. (Fig. 3, L, L; Fig. 9.) According to Kretschmann, Prussak's space is roofed by a layer of the membrana flaccida which separates from the vertical external layer of the membrane and extends downward and inward until it reaches the spina capitis mallei. Kretschmann states that this roofing membrane may split off from the membrana flaccida either at the margo tympanicus or just below it, in the latter case placing the

floor of the external attic lower than the margo tympanicus, so that in case of suppuration of the external attic the pus would escape above Prussak's space which would then not be involved in the abscess. If the membranous roof of Prussak's space is attached to the margo tympanicus the pus must discharge through Prussak's space. The roof of Prussak's space helps to form the floor of the external attic. Politzer represents the ligamentum mallei externum as the roof of Prussak's space. (Fig. 4, E.)

As described by Prussak and confirmed by Marie Köbele, Prussak's space may open posteriorly into the external attic above the posterior pocket (described below) of the membrana tympani. (Fig. 7, L.) In this case Prussak's space forms a part of the pars cupularis or ex-



Figure 6. The attic opened from above showing the ligaments of the malleus and incus. M, head of the malleus; L, ligamentum mallei anterius; E, ligamentum mallei externum; F, external attic and external malleolar fold; B, inner, B', outer part of the posterior ligament of the incus; T, tendon of the tensor tympani muscle contained in the tensor fold; S, inner attic with stapes; A, antrum tympanicum. After Politzer.

ternal attic. As Marie Köbele has shown Prussak's space may also open through the posterior malleolar fold into the mesotympanum by way of the posterior pocket, Prussak's space then being a part of the mesotympanum, not of the attic and unaffected by attic suppuration.

The plica malleolaris posterior (posterior fold) (Fig. 5, P; Fig. 7, F; Fig. 9, P.) is attached above and in front to the gray line separating the membrana flaccida from the pars tensa of the membrana tympani posteriorly. Posteriorly and above, the plica malleolaris posterior is attached to the bony grooved rim of the pars tensa of the membrana tympani, but arises from a separate bony ridge. Descending from these attachments

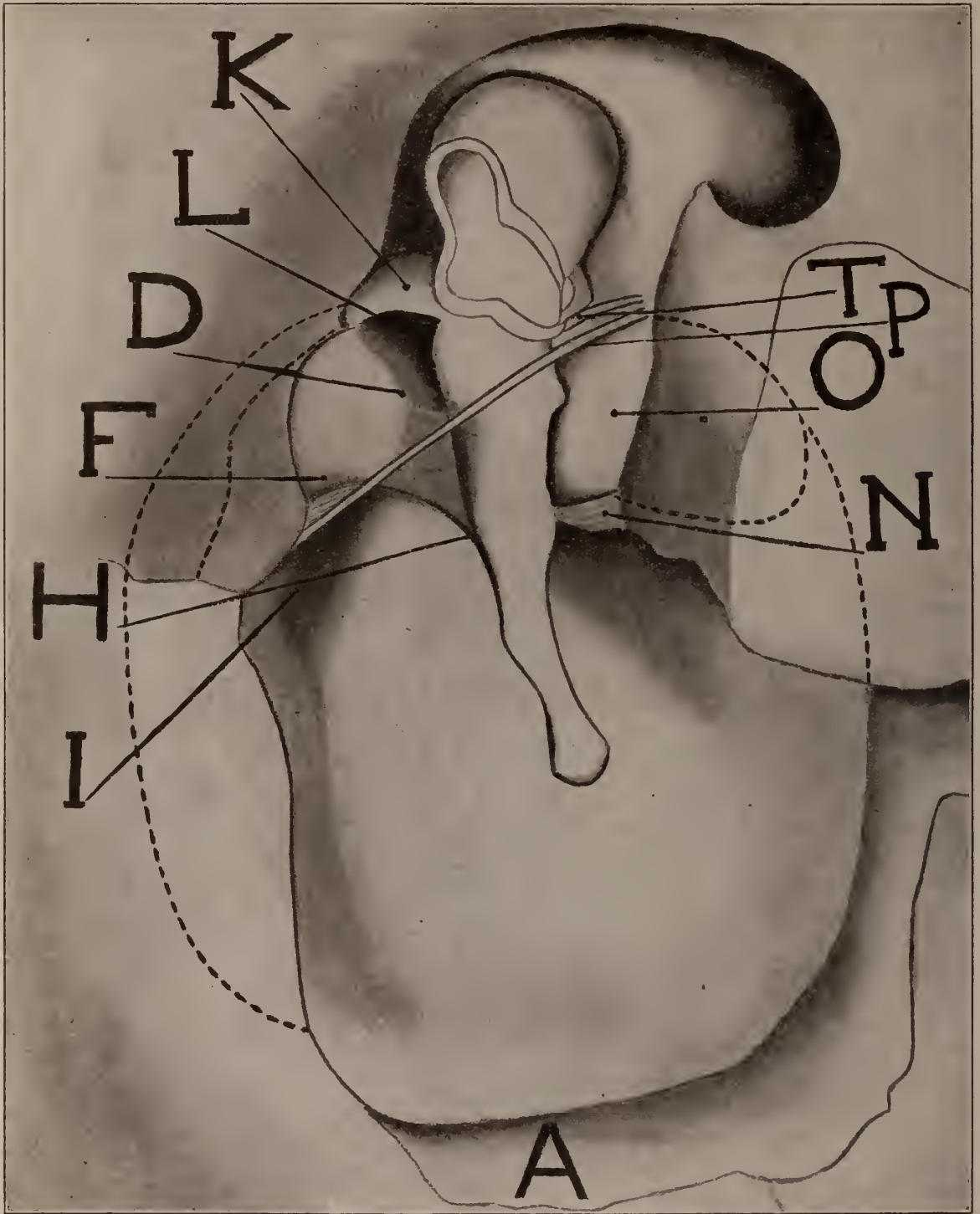


Figure 7. Drawing showing outlet of Prussak's space into external attic. From Prussak's original article written in 1867 with first description of Prussak's space. The incus has been removed. The malleus is turned towards the observer so that he looks at its articular facet; A, floor of the tympanic cavity; D, apex of processus brevis; F, posterior malleolar fold; H, its lowest point of attachment to the manubrium mallei; I, entrance to the posterior recessus membranae tympani; (posterior pocket of von Tröltsch); K, roof of Prussak's space, (recessus membranae tympani superior); L, entrance to Prussak's space above the posterior malleolar fold; N, tendon of the tensor tympani muscle; O, tensor fold forming the tensor cul de sac over the tympanic orifice of the Eustachian tube; P, plica malleolaris anterior with the chorda tympani nerve along its free border; T, ligamentum petrotympanicum.

parallel to the membrana tympani the posterior fold unites with the posterior surface of the manubrium mallei (Fig. 7, H; Fig. 5, P.) The arched free border of the fold looks downward and usually contains the chorda tympani nerve. The space between the posterior fold and the

the place of insertion of the ligamentum petro-tympanicum.

The anterior pocket has the form of a triangle with the apex above. It is smaller than the posterior one and opens downward and forward into the mesotympanic cavity; the free border of the plica malleolaris anterior contains the chorda tympani. The arteria tympanica anterior and the fibrous extension of the processus longus of the malleus also enter into the formation of the anterior fold and, with the chorda, pass out of the tympanic cavity through the fissura petro-tympanica.

The chorda tympani (Fig. 1, C; Fig. 5, C, C; Fig. 4, T.) enters the tympanic cavity by a minute bony canal which leaves the Fallopiian canal and opens into the posterior superior part of the bony groove of the membrana tympani. The nerve usually crosses the mesotympanum by following the inferior arched border of the posterior

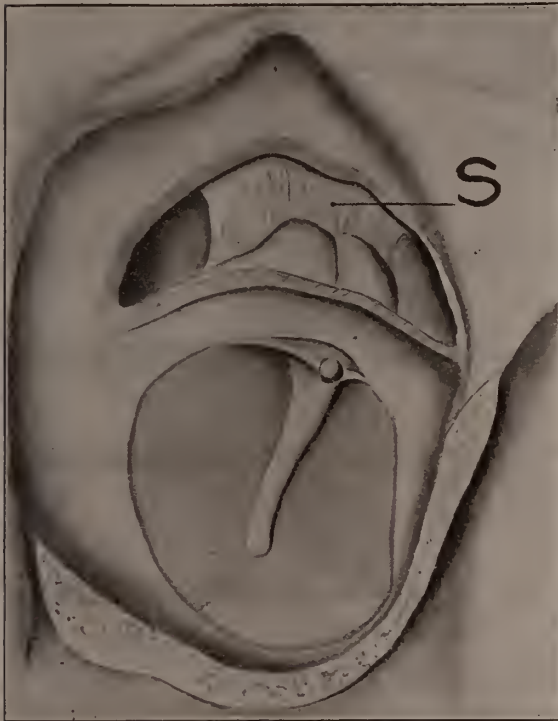


Figure 8. The attic opened from without by cutting away its external wall above the margo tympanicus. S, superior malleolar and incudal ligaments arising from the incudo-malleolar body and attached above to the tegmen tympani, dividing the attic into an outer and an inner attic. After Zuckerkandl.

membrana tympani is called the recessus membranæ tympani posterior, is the posterior pocket mentioned and opens downward into the mesotympanum. (Fig. 7, I.)

The anterior pocket, recessus membranæ tympani anterior, is created by the anterior fold (plica malleolaris anterior). This fold is also a duplicature of the tunica propria of the membrana tympani extended between the ligamentum petro-tympanicum (remains of the processus longus of the malleus) (Fig. 5, A; Fig. 7, P.), the anterior angle of the neck of the malleus and the anterior angle of the processus brevis and blends with the membrana tympani along an upward and forward extending line reaching from the anterior limit of the margo tympanicus to

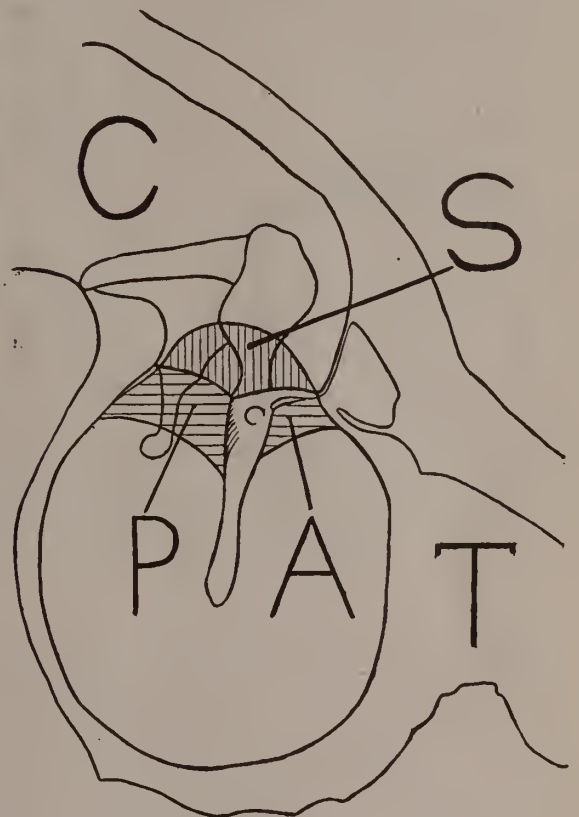


Figure 9. Schematic drawing showing relation of the posterior, anterior and superior pockets of the membrana tympani. C, pars cupularis or external attic; S, Prussak's space (recessus membranæ tympani superior); P, posterior pocket, (recessus membranæ tympani posterior); A, anterior pocket, (recessus membranæ tympani anterior); T, tuba Eustachii. After Siebenmann.

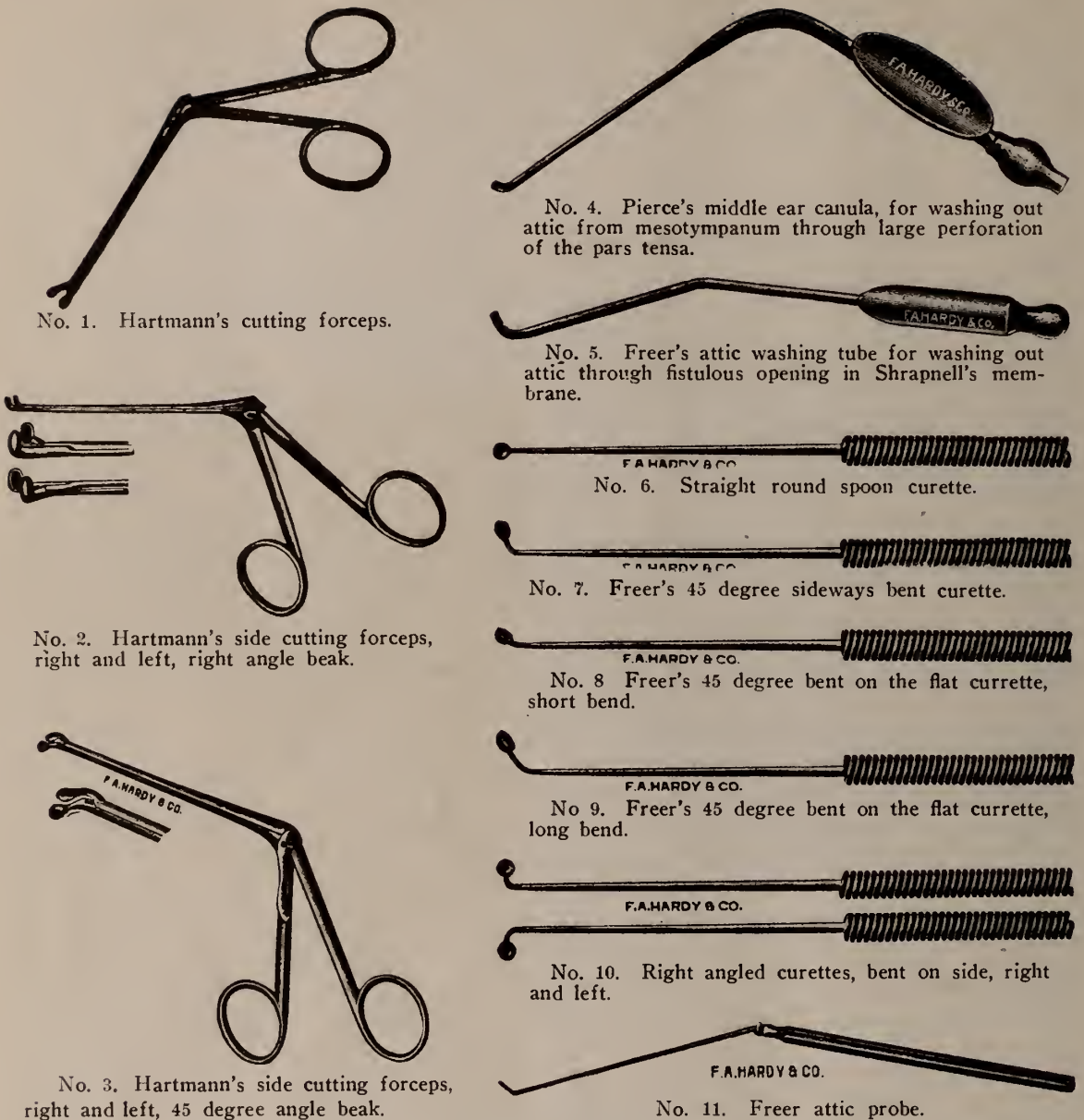


Fig. 10. Instruments.

malleolar fold to the inner surface of the manubrium mallei, crossing this and leaving the tympanic cavity by way of the lower border of the anterior fold. In some cases the chorda does not follow the lower border of the posterior fold, but is attached to a fold of its own, the chorda fold. (Fig. 1, C.) The chorda fold may attach itself to the processus longus of the incus, so offering an obstruction to the drainage of the inner attic.

A study of the anatomical ear specimens of Dr. W. G. Reeder has been of great service to

me in the comprehension of the intricate anatomy of the attic and I take pleasure in thanking him here for his help and suggestions.

ACUTE SUPPURATION OF THE ATTIC.

The foregoing review of the topographical anatomy of the attic shows, as described by Merkel, that the external attic or pars cupularis offers poor opportunities for drainage as it is built up in three stories or compartments. The first of these is formed by the anterior and posterior malleolar folds, with the anterior and posterior

tympanic recesses or pockets created by them. The second story, the superior tympanic recess or Prussak's space rests upon these two pockets and its roof helps to form the floor of the third story which is the external attic or pars cupularis. The inner attic is less subdivided as it has only one story, but nevertheless it, too, may be a partly confined space, difficult to drain for, as shown in Fig. 1, it is not only separated from the outer attic but the malleolar incudal body and often by the superior malleolar incudal fold, but may have merely apertures connecting it with the mesotympanum in cases such as shown in Fig. 1, where a large chorda fold, stapedal fold and tensor fold exist.

Thus it is seen that, while the mesotympanum forms an undivided, single, easily drained cavity of comparatively simple form, readily opened for direct drainage if the pars tensa of the membrana tympani be perforated, the attic or epitympanum is subdivided into a number of compartments with easily blocked intercommunications and communications with the mesotympanum, for, when inflamed, the normally thin mucous membrane folds, forming the floor and partitions of the attic, are capable of extreme obstructive swelling, the obstruction being aggravated by false membrane and pus clots, so that the normal outlets of the attic into the mesotympanic cavity may become wholly or partly closed, the pent up pus being dammed back into the tympanic antrum and mastoid cells. In addition, instead of having merely the tympanic membrane for its external wall, as is the case with the mesotympanum, the pars cupularis has an outer wall of bone, so that, in order to escape into the external auditory meatus, pus confined in the attic must find its way underneath the lower border of this bony wall, that is, under the margo tympanicus, and it can only do that after perforating the ligamentous attic floor, finally having to burst through the swollen membrana flaccida above or through Prussak's space before it can discharge from the ear. Therefore epitympanic perforations, instead of being simple punched out holes, as are perforations of the pars tensa, are necessarily fistulous tracts that give poor drainage through the resistant, dense tissue encountered and are situated high up above the region of the processus brevis. As is always the case in regard to deep-seated abscesses sur-

rounded by firm walls, there is much edema of the integument about them so that acute suppuration of the attic with retained pus is accompanied by swelling of the superior meatal wall and great edema of the tissues surrounding the processus brevis, a peculiar ballooned or conical fleshy, dense swelling forming above the level of the processus brevis, this swelling overhanging the pars tensa which, unless the mesotympanum be also inflamed, may look almost normal, barring some reddening and a pink striation radiating from the menubrium mallei. The processus

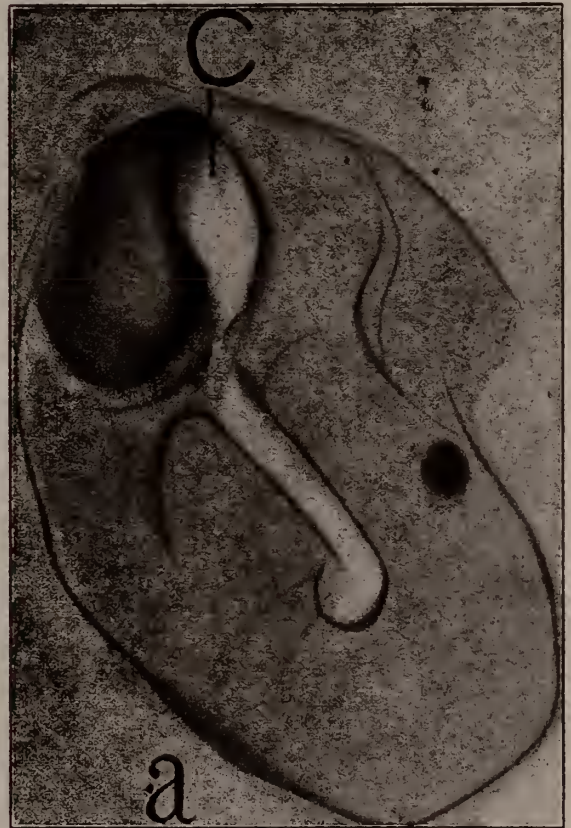


Figure 11. a, b and c, sketches of three drumheads made after cessation of chronic attic suppuration.

Figure 11, a. Healed chronic attic suppuration. Young woman of twenty. In childhood, in the acute stage, partial loss of the external attic wall, making it possible to look into the external attic and see the head of the malleus, C.

brevis and the membrana flaccida are entirely hidden by the swelling described. Usually in the center of the swelling is the minute outlet of the perforation leading through a fistulous tract up into the attic, a thread of pus hanging from it.

The foregoing shows how the anatomically performed obstructions to drainage from the attic

into the mesotympanum favor the formation of an attic abscess. This is especially the case when the external attic has a complete floor, the condition being aggravated where the inner attic is also nearly shut off from the mesotympanum because of mucous membrane folds that give it also a nearly complete floor. (Fig. 1.)

Drainage from the attic will be less unfavorable if there be a gap between the external malleolar and incudal folds as described, or if the



Figure 11, b. Healed chronic attic suppuration. A large polypus had escaped through the fistulous opening (F) in the membrana flaccida above the processus brevis. The pars tensa is somewhat deformed by contractile distortion. Complete recovery after severe attacks of pain, the hearing becoming normal.

tensor tympani fold is incomplete, there being no "tensor cul de sac" in this case to obstruct the flow forward to the Eustachian orifice. It is also, however, the author's observation that an incomplete tensor fold favors the direct entrance into the attic of fluids forced up into the Eustachian tube from the nasopharynx. This was made apparent directly after some adenoid operations by blood that shone through the

membrana flaccida, the mesotympanum showing none through the normally transparent pars tensa. This indicates how the attic is often directly infected from the pharynx, the resulting otitis beginning in the attic, so endangering the mastoid cells.

Abscesses of Prussak's space alone are not common and are usually the result of the extension of an attic abscess from above into Prussak's space, which in this case merely acts as a passage-way for the pus. This occurs in those cases in which Prussak's space opens into the external attic above the posterior malleolar fold as in the first description of Prussak. (Fig. 7, L.)

SYMPTOMS.

A chief characteristic of acute attic suppuration is earache of unusual severity exceeding that of a simple mesotympanic abscess, a diagnostic characteristic of this earache being the persistence of the ache after paracentesis of the pars tensa, while little or no discharge follows the incision unless there be a coinciding mesotympanic inflammation. Discharge from the paracentesis opening may appear a day or two later if the pus has been able to force its way from the attic into the mesotympanum. In this case the attic continues to drain through the perforation in the pars tensa, no fistula forming under the margo tympanicus, or the paracentesis opening may close, the power part of the drum head preserving a nearly normal appearance while a fistulous perforation forms at the apex of a conical or saclike swelling forming in the region of the margo tympanicus above the processus brevis as described.

TREATMENT.

While in acute attic abscess it is not possible, because of the swelling, to recognize the membrana flaccida or other landmarks of the upper part of the drumhead, the usual site of the attic perforation in the region of the membrana flaccida seen in chronic attic suppuration indicates that in the acute cases the perforation is also through this membrane, therefore, instead of a useless paracentesis of the pars tensa, a horizontal broad incision through the conical swelling described made in the direction of the probable location of the margo tympanicus and following the fistula if present may possibly help to evacuate the pus. The density and thickness of

the tissue to be traversed, however, and the masking of landmarks by the swelling make success uncertain, for the chief cause of the retention of the pus is the floor of the outer attic which lies above and behind the margo tympanicus. It would be possible to cut through this floor with an angular blade passed up under the margo tympanicus, but as the external lateral ligaments of the malleus would be severed this seems inadvisable.

Entering further into an account of acute attic suppuration would be merely to take up its often described mastoid complications, so that the subject is dropped here. As shown by Kretschmann there is far greater danger of mastoid involvement where the attic is the chief seat of the suppuration than where only the mesotympanum is involved, and the appearance of a perforation under the margo tympanicus is always to be taken as a danger signal.

ACUTE CATARRHAL ATTIC INFLAMMATION.

Very mild cases of transient attic inflammation are occasionally seen with moderate reddening and swelling above the processus brevis, the pars tensa appearing normal. These patients have often quite marked earache which is apt to be regarded as neuralgic unless the attic region be inspected.

CHRONIC ATTIC SUPPURATION.

In nearly all cases of chronic attic suppuration there is a history of an acute otitis, usually occurring in childhood and seldom requiring a mastoid operation, the ear never having ceased running or else having discharged intermittently, the outflow being of a fetid nature, occasionally enough so to be noticed at a distance from the patient. The explanation of the condition in most cases is that, because of ineffective drainage, especially of epithelial debris lying at the bottom of the pars cupularis, which acts as a cesspool, a mild, putrid catarrh has continued during the long period since the acute suppuration. Only rarely do graver states, such as caries of the tegmen tympani or associated mastoiditis, complicate the affection and the common opinion that a chronic fetid discharge from the ear has caries in the mastoid process or other serious disease in the temporal bone as its probable basis and hence imperatively demands a radical mastoid operation is not justified by facts.

The explanation of the rarity of mastoid involvement in chronic attic suppuration is to be found in the defensive measures which, in the long course of the disease, nature has been able to take and which consist of eburnation of the mastoid process with obliteration of its cells and often diminution in size of the tympanic antrum, so that the attic suppuration becomes truly confined to the attic. That this protective chronic solidifying osteitis does not always oc-

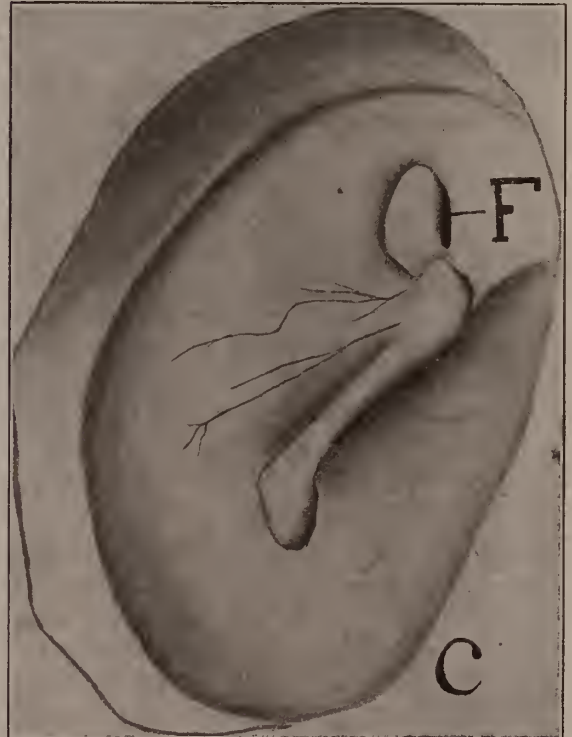


Figure 11, c. Healed chronic attic suppuration whose symptoms had simulated mastoiditis. Complete recovery with perfect hearing. F, fistula.

cur is proved by occasional extensive chronic destruction found in the mastoid process, but as a rule the cells are obliterated. While in chronic attic suppuration there has been time for a gradual local defense to develop, acute attic suppuration finds no such preparation and the normal anatomical structure of the attic and mastoid process, suited for air conduction and not drainage, may prove to be a danger that permits an overwhelming infecting invasion.

Chronic attic suppuration occurs in two types. In one, a large perforation of the pars tensa, sometimes involving all or nearly all of it, exists, the history of these cases being that

in the acute suppurative stage the attic abscess, instead of perforating the membrana flaccida has drained into the mesotympanum, which was also involved, extensive or complete destruction of the pars tensa of the membrana tympani resulting. Inspection through the large perforation in most of these cases shows the mucous membrane of the promontorium and the inner wall of the middle ear to be healthy, but covered with a moderate or slight mucopurulent foul discharge coming from above, the fetor remaining in spite of the clean appearance of the middle ear after washing.

In other cases masses of sodden, white epithelium, so-called cholesteatoma, are seen to fill the middle ear in greater or less amount. In unusual cases formidable collections are found that have been growing for years and have caused pressure atrophy of the walls of the attic, mesotympanum and tympanic antrum and distended all of these spaces into one great cavity. In such extreme instances the patient suffers from headache and neuralgic pain, reflected often to distant regions. Usually in chronic attic suppuration of the type with open drumhead there is very little pain and the patient merely complains of the discharge.

In this first type of chronic attic suppuration with a large perforation in the pars tensa the ossicles may be found intact or in part or wholly lost. The manubrium mallei is the most resistant part of the ossicles; where there is a large cholesteatoma all trace of them is generally lost.

In the second type of chronic attic suppuration the pars tensa with the manubrium mallei is usually intact, but above the processus brevis is seen a characteristic fistulous perforation remaining from the acute stage (Fig. 11, b, c.), which emits a slight, very putrid mucopurulent discharge or else is hidden by a scab. In other cases the fistula is covered by a polypus protruding from it, perhaps so large that it fills the auditory meatus and must be removed to expose the fistula. After such exposure by removal of the concealing scab or polypus a very fine probe (Fig. 10, 11) bent at forty-five degrees, about $\frac{3}{16}$ of an inch from its distal end, will in most cases be found to pass upward through the fistula and behind the margo tympanicus into the attic, usually moving freely in its cavity. Probing directly inward with a straight probe will mis-

lead as the probe will not advance. It must be directed upward into the attic. If a washing tube (Fig. 10, 5) of the same angle as the probe used, now follows it into the attic, white, putrid, masses of epithelium and pus may be washed down from it, the patient usually becoming dizzy, because of the direct effect of the water upon the bone covering the horizontal semi-circular canal.

When moved about in the attic the washing tube and still more an angular curette often give a sensation of grating against bare bone. This is no evidence of caries, but is usually merely due to the extreme thinness of the lining of the attic so that grating is easily produced.

Unlike those in the first group of cases, patients with the fistulous type of chronic attic suppuration are subject to onsets of earache due to temporary stoppage of drainage and accompanied by pain radiating to the temple, headache, pain with tenderness over the mastoid region and dizziness, these symptoms being accompanied by increased discharge. The mastoid pain may be due to mastoiditis but is commonly caused by an exacerbation of the existing chronic osteitis. The pain is especially severe while a polypus is being delivered through the fistula, the patient feeling great relief when it has escaped into the external auditory meatus.

Though rarely, mastoid complications may develop as the result of associated gradual distention of the tympanic antrum by retained putrid epithelial masses. On account of the tendency to gradual obliteration of the mastoid cells by eburnation described, the antrum may be the only suppurating cavity found in the mastoid process.

In spite of its rarity the possibility of chronic caries of the mastoid process must not be forgotten, especially as the only indication of such mastoid involvement may be the ineffectiveness of the local treatment of the attic suppuration which thus acquires diagnostic value. In other cases the outburst of an acute mastoiditis will prove the existence of chronic mastoid disease.

As described by Kretschmann and Politzer and shown in the illustrations in Politzer's textbook on the ear and in Fig. 11, a, b, c, the fistulous attic perforation may have many shapes from a mere pinprick opening, to a large one which represents the complete destruction of Shrapnell's membrane and in varying degree of the outer

bony wall of the external attic, so that the head and neck of the malleus may become visible. (Fig. 11, a.) The fistulous opening is usually high up, close to the margo tympanicus, several millimeters above the processus brevis, indicating, as shown by Kretschmann, that commonly the pus drains through the upper part of the membrana flaccida and directly underneath the margo tympanicus, Prussak's space not being involved.

While the results of former caries of the margo tympanicus are occasionally seen as described in form of a healed defect in the outer wall of the external attic, active caries, is, in my experience, rare.

Active caries of the ossicles may also exist, but here too, usually only the traces left by a former caries are found. Caries of the malleus, according to Kretschmann, always first attacks the neck of the malleus above the crista collis mallei and next the interior of the head. My experience with curettage of the attic has usually shown me that the malleus head had often disappeared long ago, while the manubrium and processus brevis are commonly present, active caries having ceased.

TREATMENT.

Manifest mastoid complications exclude any attempt at direct treatment of the chronic attic suppuration as a mastoid operation should then be performed. In all other cases an attempt to arrest the attic suppuration by local treatment of the attic is the proper procedure. If unsuccessful, it serves the diagnostic purpose of showing that the putrid discharge from the ear probably comes not only from the attic, but also from the distended tympanic antrum or from the mastoid cells. If the treatment, however, be successful, it eliminates the possibility of mastoid disease.

It has been my experience that the mere existence of a chronic discharge from an ear, no matter how slight it and the symptoms may be is for many otologists a warrant for urging a radical mastoid operation without regard to the risk of the loss of the often even perfect hearing of the patient and the probability that the cause of the discharge is confined strictly to the external attic, which is acting merely as a cesspool under the overhanging body of the incus. In these cases not only is the mastoid process not involved, but, because of eburnation, incapable of

involvement, so that simple local treatment, as will be shown, may be able to remove the entire difficulty.

Treatment of the First Group of Cases with Large Mesotympanic Perforation.

In the type of chronic attic suppuration discharging through a large perforation in the lower part of the drumhead, recovery may often be brought about by washing upward into the attic from below with a vertical stream from an attic tube introduced into the mesotympanum through the perforation, hidden epithelial collections and pus being brought down from above. Repeated a few times I have known this simple procedure to cause a putrid discharge of years' duration to cease completely. In other cases the foul pasty collections of cast-off epithelium and pus have to be loosened with the angular curettes shown in Fig. 10 (10), a curette with the edge looking forward being passed up behind the remnant of the drum membrane and made to rotate from behind forward under the attic roof. This is followed by the curette whose edge looks backward, the scraping being then done in a backward direction. The attic tube then washes away the loosened masses. In most of these cases both the malleus and incus, barring perhaps a remnant of the manubrium mallei, have been lost. When these bones are present reliance must be placed on repeated washing with the attic tube and very gentle curettage or if this is ineffective, upon osseculotomy. Care must be taken not to scrape against the inner tympanic wall as the stapes often survives the malleus and incus and might be displaced from the oval window. The curettage must be conducted strictly forward or backward under the tegmen with the curettes mentioned or else down the inner surface of the external attic wall (niche of the ossicles), with the curette whose spoon faces the operator. Fig. 10, (8-9).

In the cases of cholesteatoma where large, thick, distending layers of white, firmly attached epithelium adhere to the attic walls and to those of the mesotympanum and tympanic antrum, which have been thrown into one large cavity, it may take the work of several sittings to clear the masses away with the angular curettes. Such cases are, of course, extreme ones, but those requiring less extensive curettage are common. In children a general anesthetic may be needed.

Polypi may hang down into the mesotympanum from the attic, their origin being hidden behind the outer wall of the attic. Here the best implement for their removal is the angular biting forceps shown in Fig. 10, (1-3), the forceps reaching up into the attic behind the margo tympanicus after being passed through the large perforation and cutting off the polypus at its base. After all visible polypi have been removed by the forceps its blades should be opened and closed up in the attic in order to cut off small polypi that are completely hidden from view. The angular curettes may also be used to loosen polypi for the grasp of the forceps.

When cleared and washed the attic should be dried with small cotton swabs turned upon a Buf-fum applicator into hard, even little cylinders, stiff enough to retain an angle when bent upon themselves. This angular swab is then introduced into the attic behind the upper rim of the perforation. After drying the attic the swab is used to convey pure boric acid powder up into the attic.

The treatment outlined nearly always removes odor and purulent discharge in a week or two, leaving the middle ear dry or usually merely moist. If the treatment is not successful, there is probably an inaccessible cholesteatoma in the tympanic antrum or possibly a mastoid complication or caries present.

Treatment of Second Group of Cases with Fistulous Opening Above the Processus Brevis.

In the second group of cases of chronic attic suppuration with an intact pars tensa and a discharge from the attic through a fistula above the processus brevis, the first thing to do is to probe the fistula into the attic. The only sign of the existence of the fistula may be a small scab above the processus brevis or a polypus in the same region or a large polypus or polypi that fill the auditory canal. After removal of these concealing objects the fistula may nevertheless be so minute and inconspicuous that, unless searched for with the probe described, its presence will go unsuspected and the otologist may think the slight discharge or small scab found merely a product of the external auditory meatus.

The probe in the attic gives the sensation of a surprisingly large cavity in which it is freely movable. The probe is followed by the angular attic fistula tube shown in Fig. 10, (5), which

usually washes down a quantity of sodden epithelium and pus clots. The syringe is connected to the fistula tube by means of three feet of pure gum tubing, the syringe being worked by an assistant while the otologist holds the tube in the attic. The water must be agreeably warm and undue pressure avoided lest the patient have a severe attack of dizziness. After the washing the right and left curettes bent at forty-five degrees with the sharp spoon facing laterally Fig. 10 (7), are rotated respectively to the right and left in the attic to release collections of epithelium that adhere to the attic walls. The sensation of grating that accompanies contact of the curette with the attic wall is, as stated, of no significance and does not mean bare bone. If the curettes are passed upward parallel to the neck of the malleus, between it and the margo tympanicus, there is no danger of dislocation of the malleus even where the malleus head is present. To avoid such dislocation, however, the curette must not be pushed inward, unless extreme freedom of motion of the sharp spoon in all directions indicate the absence of the malleolar head.

In most cases where no polypi or only little ones are present this method of treatment repeated a few times will cause the putrid attic discharge to cease, the swelling about the fistula to disappear and mastoid symptoms to vanish and will either make the fistula close or become a dry, clean aperture. (Fig. 11, a, b, c.) If, in spite of this treatment, the fistula continues to discharge foul matter it is commonly because there are polypi concealed in the attic, or much less often, because of the presence of cholesteatoma of the tympanic antrum or in the mastoid process or because of caries of the external attic wall in the region of the margo tympanicus.

If one or more small polypi are seen about the fistulous opening or a large one protrudes through it there is always a probability that more are concealed in the attic. Therefore after clearing away the visible polypi, the angular curettes facing laterally should be introduced through the fistula, enlarged by incisions if necessary and used forward and backward underneath the tegmen tympani. Then the angular curette bent on the flat Fig. 10, (8), (9), should be used to scrape the inner surface of the external wall of the attic above the margo tympanicus in order to loosen or remove polypi present there, finally the

angular biting forceps Fig. 10 (2-3), being introduced and opened and shut in the cavity of the attic to take away the polypi that have escaped the curettes. After removal of the polypi the discharge commonly ceases unless polypi have been missed or their later development cause it to continue. If after repeated washings and removal of polypi the putrid discharge does not cease there is always a suspicion of caries or of an involvement of the tympanic antrum or mastoid process.

Where drainage seems inadequate because of the smallness of the fistulous opening it may be enlarged by incisions into Shrapnell's membrane or its remains, followed by curettage of the margo tympanicus with a sharp curette bent on the flat Fig. 10, (8), (9), in order to cut away some of the bone of the margo. If the bone is softened by caries or chronic inflammation this may enlarge the opening a good deal. The curette is introduced behind the outer attic wall and cuts toward the operator from above down.

For obstinate cases in which the curette fails to scrape away enough of the margo tympanicus to give needed drainage, Politzer has devised a chisel set with which he removes the external wall of the attic.* A trial of this instrument on the cadaver showed me that the hard, massive bone which forms the upper wall of the bony meatus and a part of which must be chiseled away to expose the attic from without, is very difficult to cut away with the light chisel necessarily used. Softened bone would be easier to be removed. Politzer did not like the bur for the work.

In suitable cases ossiculectomy may be employed if washing and curettage proves ineffective and if the hearing of the ear in question be nearly or quite lost. If it be good or seem capable of improvement the benefits to be derived from ossiculectomy are too problematical to urge the operation, even if the patient were inclined to take the risk of partial loss of hearing which ossiculectomy entails. As Politzer states, ossiculectomy is sometimes followed by more or less deafness and often by prolonged or persistent supuration. However, there may be special cases where ossiculectomy seems the proper thing to do in a case of Kretschmann's where ossiculectomy

caused an attic discharge to cease where a previous mastoid operation had failed.

For local anesthesia in the various manipulations and operative procedures described cocaine mud composed of fifty per cent alcohol and pure flake cocaine crystals has proved the most effective. It may be introduced up into the attic with the bent cotton swabs described.

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References:

- Prussak: Zur Anatomie des menschlichen Trommelfelles. Archiv für Ohrenheilkunde: Würzburg, 1867. III, 255.
 von Tröltsch: Lehrbuch der Ohrenheilkunde mit Einschluss der Anatomie des Ohres. Leipzig, 1881, page 163.
 Merkel: Handbuch der topographischen Anatomie. Braunschweig, 1885 to 1890, page 517, 549, 552 to 555.
 Siemann, Mittelohr und Labyrinth. (Handbuch der Anatomie des Menschen von Bardeleben), Jena, 1897, Vol. V, second part, page 247, 252-555.
 Politzer: Lehrbuch der Ohrenheilkunde. 1908.
 Kretschmann: Fistelöffnungen an oberen Pole des Trommelfelles über dem Processus brevis des Hammers, deren Pathogenese und Therapie. Arch. f. Ohrenheilkunde. Leipzig, 1887, XXV, 165.
 Schwalbe: Lehrbuch der Anatomie der Sinnesorgane, Erlangen, 1897, page 440.
 Politzer: Die anatomische und mikroskopische Zergliederung des menschlichen Gehörorgans. Stuttgart, 1889, page 75-100.
 Marie Köbele: Untersuchungen über die Variationen der durch die Paukenhöhle und deren pneumatische Nebenräume verlaufenden Nerven, Sehnen, Ränder und Schleimhautfalten Zeitschrift für Ohrenheilkunde, LX, 14; 1910.
 Hans Kohnstadt: Über die Verschiedenheit der Prognosestellung bei der mesotympanalen Mittelohrentzündung. Zeitschrift für Ohrenheilkunde, LXIX, 210; 1913.

THE ACUTE INFECTIOUS DISEASES OBSERVED IN COOK COUNTY HOSPITAL IN 1917

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CHICAGO

The patients admitted to the contagious ward of the Cook County Hospital represent all the acutely contagious diseases indigenous to this region except smallpox. Their relative occurrence in the county and city is mirrored by our wards except in the cases of smallpox and diphtheria which go to their respective city hospitals; smallpox in its entirety and diphtheria to a very large extent.

In order to show the relationship of our material to the community at large, our cases are easily divided into three classes; first, children of those families whose social condition is such that the home care of a patient with infectious disease would be too great a personal and financial burden. To this group should be added the nomadic day laboring adult, without home other than the transient boarding house.

*Politzer, Lehrbuch der Ohrenheilkunde.

The second group is that forced in by Health Department and police regulations. In these statistics it is represented by the poliomyelitis group only. This represents all classes socially and economically. Epidemic meningitis to a slight extent this year, because of recent orders, and more completely next year, will be analogous.

The third group is made up of individuals who have come to other wards of this hospital or are transferred to us from other hospitals. They are most frequently children or adults who have entered the hospital in the medical or surgical group, and developed while there, an infectious disease. This group also includes nurses and internes who are on duty in hospital wards and contract an infectious disease in line of duty.

An examination of this grouping would show a rather greater preponderance of patients from the strata of society below the middle than from that above. This deviation from the normal group treated by most physicians in private practice is not as great as might be imagined, however. Due to the education of the public toward hospitalization and especially of contagious diseases, we are more and more receiving cases from a better class of families, and I believe such statistics as we can give you are fairly representative of the virulence of the various epidemics in Chicago. Our death rate will be slightly higher than the average, due to two factors; first, the cases are frequently brought to us so late that serious complications have already occurred, and secondly, our percentage of delirium tremens is far higher than the usual range in private practice.

Our 1917 records show the presence in the hospital during the year beginning and ending with December 1st, of 2,438 patients. Of this number, 103, or slightly less than 4 per cent were not discharged as cured, but were transferred to the other wards of the hospital because of complications occurring in or preceding their entering the contagious hospital. This group is made up largely of children entering the pediatric ward, transferred to us on account of a contagious disease, and sent back to the pediatric department on recovering from the acute infection. In addition to that, it represents a considerable group of erysipelas sent to us from the surgical wards of this and other hospitals. From the standpoint of cure this group may be considered well, so far

as the infectious disease was concerned, at the time of transfer.

One thousand nine hundred and twenty-six or 79 per cent of our aggregate, were discharged from the hospital cured. That is, they were cured as far as the acute infection was concerned. Amongst these, however, are the poliomyelitic cases cured of their acute infection, but discharged with their chronic paralysis. This group, plus those transferred, make up 83 per cent which may be considered cured.

Three hundred and twenty-four, or 13 per cent of our aggregate, died. Of this number, however, 123 had been under our care less than twenty-four hours at the time of death. These cases were for the most part moribund on admission. They were brought in by the police or sent in by the family only after the physician in charge had explained the hopelessness of the case. This does not apply to the poliomyelitic group as strictly as to other cases. In this disease the onset of respiratory paralysis is frequently overlooked by the physician and such cases are sent in with a hopeful prognosis. A fatal prognosis should be given in these cases, although we have had a few recoveries. If one subtracts these moribund cases from the total admission and the total deaths, it gives us a percentage of death rate slightly less than nine, which more nearly represents what should be charged as our death rate.

Five hundred and eighty-two of our admissions were straight scarlet fever. Thirteen, or 2.2 per cent died as a result of scarlet fever, there being no evidence of any complication. 138 were admitted as scarlet fever with complication of one type or another.

Our most frequent serious complication in scarlet fever was diphtheria. We admitted 115 cases of scarlet fever with this complication. 31, or 27 per cent, died.

These cases came to us very commonly in serious condition, frequently neglected. The neglect was due to two avoidable factors; first, a physician was called too late. Education and publicity only will impress upon the public the necessity of calling early medical aid in infectious diseases. Equally important, however, was the factor that the physician depended too fully upon bacteriological examination of throat cultures and smears for the diagnosis of diphtheria.

It is true that a very large percentage of scar-

let fever complicated by diphtheria will give throat cultures showing Klebs-Loeffler's organisms at some time, but many cases will give a negative culture and smear at the first or second examination and often even later. The bacteriological picture may be almost entirely made up of streptococci or show a mixed bacteriology which over-grows the Klebs-Loeffler organism.

It is essential for the reduction of mortality that these cases get serum early and in large doses.

This mixed infection should be recognized from the clinical picture. These cases are far more toxic than are the ordinary cases of scarlet fever. They run a higher pulse and temperature. In straight scarlet fever there is almost invariably a tendency toward convalescence at the end of the third or fourth day, demonstrated by a downward course of the temperature curve. When complicated by diphtheria, however, the temperature curve stays high and the toxicity continues. A distinctly septic mouth usually accompanies this condition from the onset. The tongue is dry, the lips fissured and the breath fetid. Drooling and nasal discharge are frequent, the cervical glands enlarge to pigeon egg size within the first few days, remain large for several weeks and may go on to supuration.

These cases may be saved only by the early and large administration of serum. It is our habit to give 20,000 units of diphtheritic antitoxin with the first dose; unless early amelioration of symptoms occurs we repeat the dose in twelve or twenty-four hours. If the case comes to us four or five days after the onset and the condition appears serious we not uncommonly give 40,000 units as the first dose. With this treatment supportive measures are concomitantly instituted; the dosage of such supportive drugs is large and very frequently repeated.

That these cases, as well as cases of measles complicated by diphtheritic discharge survive *only* under relatively large amount of serum, we are sure. That cases which never give a positive culture are certainly diphtheritic, there may be some doubt. They react promptly to anti-diphtheric serum, but in view of the recent work on the effect of the introduction of foreign proteid or non-specific vaccine, one might conclude that this was not a specific reaction. One fact stands out prominently, that is, that the majority treated

promptly with the serum proceed to convalescence, and those that do not receive this treatment as promptly die.

Scarlatinal rash complicating burns were the cause of death twice during the year. These were cases in which the scarlet rash followed severe burns, and the condition resulted in death. The complication is not necessarily fatal, but both these cases had extensive burns and the intoxication from them was so severe as to result in death. That such cases are true scarlet fever is doubtful. We have nothing to offer regarding treatment in this class of cases other than the usual systemic treatment and the use of supportive measures.

One fatality resulted from scarlatinal nephritis. The patient was admitted during the fourth week of the disease because of nephritis, and in spite of stimulation of skin, kidneys and intestinal tract, died a few weeks later of uremia.

Milder hemorrhagic scarlet lesions occurred rather frequently, and in one case of unusual severity ended in death.

One case, a young and vigorous medical student, developed, as a complication of his scarlet fever, a streptococcus throat of the virulent type, followed by a severe cervical adenitis, myocarditis, nephritis and death. The course of the disease was five weeks and death resulted shortly after the myocarditis appeared.

One other case of myocarditis occurred as a complication of scarlet fever, resulting fatally. This condition should always be considered of grave omen, for while cases with a chronic myocarditis may weather the severe diseases, the occurrence of an acute muscle degeneration during either scarlet fever or diphtheria very frequently results fatally.

Scarlet fever accompanied by measles occurred in six patients. These cases were desquamating from scarlet fever when admitted by us with measles. Four other cases came in with a desquamating scarlet fever, measles, rash and a beginning whooping cough. The whooping cough was characteristic both as to type of cough and blood picture, showing a high lymphocytosis in all cases. None of these was unusually ill, and a few doses of pertussis vaccine relieved the whooping cough.

Eight cases of chickenpox were superimposed upon a scarlet fever. One child developed a high temperature with the chickenpox reaching 104

for three days, but aside from this, there were no untoward symptoms.

Cervical adenitis of sufficient consequence to be noted developed in nine cases. This condition parallels the acute nephritis of scarlet fever in date of onset, both beginning usually after the 19th day of illness. Our adenitis cases are treated with ice bags and later, if necrosis with apparent softening occurs, with hot applications. When the mass seems to be close enough to the skin, it is incised and large amounts of pus evacuated. We are trying horse serum on some of these cases now, at the onset, with the idea that the foreign proteid reaction may be beneficial. In the few upon which we have used it, it seems to have some value. However, but a small percentage of glands break down, no matter how treated, so it will necessitate a large series of statistics to determine results accurately. Furthermore, the different epidemics of scarlet fever differ markedly in the percentage of gland involvement. This series of 9 represents but 1.5 per cent of the 600 cases of scarlet fever, uncomplicated by diphtheria, a very small proportion indeed.

Fourteen cases or less than 2 per cent developed acute nephritis, 10 of them hemorrhagic at the onset. Several of them remained hemorrhagic for ten days or more, but all recovered. One death occurred in a patient from scarlet nephritis as previously recorded, but this case, as well as four other cases in this series, came in as nephritis, the acute exanthem having receded. One of these cases entered in such severe and constant uremic convulsions that he had to be restrained while a venesection was done. The administration of a single small dose of chloral and the removal of 18 ounces of blood resulted in the uneventful convalescence of what seemed a hopeless case. Another case entered in deep coma and reacted in the same way to the same treatment.

For the ordinary cases, the conventional hot pack, free catharsis, absolute rest in bed, a liberal diet in which meat was somewhat restricted, seemed to be sufficient. No case was allowed out of bed until the albuminuria had entirely disappeared. Basham's mixture was given to all these cases. The pallor and slight edema of the face are concomitant with the urinary findings and make the diagnosis.

Otitis media occurred in 22, or 3 per cent of the cases. This is a distressing complication as

the case must be hospitalized until the purulent discharge ceases, a matter of many weeks, in the majority of instances. Our percentage is low, due to the fact that under no circumstance was a nose irrigated except with the child lying on his abdomen, and then only with the nozzle of the irrigator at least one-half inch from the nares. The ears themselves are treated dry, after rupture of the drum. Paracentesis was infrequently performed. Ten per cent phenol in glycerine was used for the alleviation of pain before rupture.

Mastoid operations were necessary twice. One case came in after the operation and the other developed the acute mastoiditis while under our care; both recovered.

One pericarditis and one case of noma occurred. They both recovered. The noma was treated with constant peroxide irrigation. It involved tonsil, alveolar gums and anterior pillar.

Arthritis occurred in three cases and with rest and salicylates resolved uneventfully. The arthritis was multiple in all cases and accompanied by severe pain and constitutional symptoms. It ran its course in from five to ten days.

Uncomplicated diphtheria of pharyngeal and nasal types occurred 157 times in our series of last year. Thirteen cases, or 8.2 per cent of these, died. This does not, however, represent the true diphtheria death rate. We admitted 18 cases of laryngeal diphtheria, and had 8 cases of this severe disease develop following the pharyngeal type. Our loss by death was 19 patients. These cases were all intubated, but the results have been unsatisfactory, for most of them come to us late. It is our practice to remove the tube at the end of the third or fourth day, and to leave it out permanently, if possible. In the large majority of this series, the tube had to be re-inserted repeatedly, due to the rapidly obstructing laryngeal edema.

Laryngeal diphtheria, complicated by measles and bronchopneumonia, was the cause of death in 7 cases, and measles and diphtheria caused 14 deaths.

As a complication of measles, diphtheria is almost always fatal. The diphtheritic infection is superimposed upon an already badly inflamed and non-resistant laryngeal and rhino-pharyngeal mucous membrane. The intoxication and the obstruction in these cases are early and grave. Twenty-five such cases occurred in this series and

as noted above, 19 died, a death rate of over 75 per cent. Other complications of diphtheria which came to our attention during the past year and resulted in death, were one case of tuberculous meningitis, and one patient in whom typhoid and erysipelas were co-existent. Three cases of diphtheria died with a pneumonia.

Exclusive of diphtheria complicating scarlet fever, our aggregate in which diphtheria existed alone or could be considered the most severe infection was 199. Our deaths from such diseases numbered 55, which represents 27.5 per cent of cases so diagnosed. This more nearly represents the death rate that should be charged to diphtheria than the 9 per cent due to the ordinary uncomplicated Klebs-Loeffler infection.

The total number of cases in which diphtheria contributed in any particular to the clinical picture was 311. Of this group 89 cases died, a percentage of 24.7, a clear demonstration of the fatality following the Klebs-Loeffler infection.

Three hundred and forty-five cases of measles were included among last year's patients. These were cases in which measles was the principal disease although complicated by pneumonia in four instances on entering the hospital.

Five cases occurred in which to measles alone death was ascribed. Twenty-five cases died from the usual complication, pneumonia. Many of our measles cases came in because of the severity of the bronchitis, rather than because of the measles. It was only after a few days' observation with the continued high temperature that the diagnosis of bronchopneumonia was made. It is very probable that many of our cases came to us with the bronchopneumonia already existing, but not noted in the hurried physical examination of the admission room. Our total deaths from measles and pneumonia alone, was 30, about 9 per cent.

To look at the situation from another angle, measles alone or as a complication, occurred in 382 of our cases. 49 of these cases, or 12.8 per cent died.

German measles occurred in 36 cases and presented no complications.

Erysipelas was the cause of admission 369 times. Death resulted in 45 cases. This represents 12 per cent. Thirteen or 29 per cent of these deaths occurred because of complicating alcoholic delirium. Two died from a complicating pul-

monary tuberculosis, and one with carcinoma of the scalp.

No complication of erysipelas is so serious as delirium tremens. All cases showing nervous excitement are given sedatives in large dose, thorough catharsis and such stimulants as may be needed. Alcohol is not given, except in very rare instances, either during the active disease or during convalescence. Our routine treatment was here, as in all cases showing nervous excitement in the infectious diseases, warm tub baths, lasting 15 to 30 minutes, repeated several times daily if necessary. Following the tub, these patients, in common with the toxic scarlets, are much calmer and usually sleep for several hours.

Locally, we have found ice water applications to the infected part, without bandaging, gave as great relief as anything we have tried. When the applications were bandaged snugly about the head or extremity, abscesses frequently resulted in the loose cellular tissue, which had to be drained. This was especially true of the upper eyelids in facial erysipelas. With the discontinuing of the bandage, we have rarely had an abscess develop.

Poliomyelitis and epidemic meningitis are both notable for the absence of complications. 428 cases of infantile paralysis were admitted; 105, or 25 per cent, died of this disease without any complicating factor, except a streptococcus sore throat in one instance.

Sixty-six cases of epidemic meningitis were admitted, and 34 died. This is a mortality rate of slightly more than 51 per cent, and we believe that it reflects severely upon the type of anti-meningitic serum supplied commercially. Some of the cases came in too late, but a number of early ones were apparently in no way benefited.

Cross infections, the bane of every infectious disease hospital, are well exemplified by what occurred in our scarlet wards. 26 measles, 26 chickenpox, 6 mumps and 3 diphtheria cases developed here. This is a total cross infection of 61 cases in 2,438 patients, 2.5 per cent. In other words, for every thousand of these patients, for the greater part at the most susceptible age, 25 cases of cross infection occurred in a hospital which may refuse no case, no matter what complication it presents. Not a death occurred in this group.

Gonorrhoeal vaginitis, which existed frequently in individuals on entrance, never claimed a new

victim while under our care. We believe this desirable result is due to the fact that rectal temperatures have been eliminated and axillary and mouth temperatures are recorded instead.

The cases herein reported are the combined services of Doctors F. D. Francis, A. L. Hoyne, H. E. Irish, and myself. I am indebted to the other members of this staff for allowing me to report our combined services.

104 S. Michigan Avenue.

THE OPEN TREATMENT OF FRACTURES.

WM. F. SCOTT, M. D.

OAK PARK, ILL.

Mr. President and Members of the Aux Plaines Branch of the Chicago Medical Society:

To hope to cover a subject of such magnitude in the time available at this meeting is quite out of the question. The reason why it cannot be covered in a short space of time is the fact that each individual bone is a separate study in itself. I shall, therefore, limit my efforts to a brief outline of the symptoms which indicate that open treatment should be adopted and to a more or less detailed description of methods applied in some of the bones most commonly fractured. On first thought one would think that this subject could be dealt with in a few general phrases, but when this is attempted, one very soon determines that the natural fusing between the open treatment of fractures and the treatment of open fractures, together with the things I have mentioned, makes a short comprehensive paper on the subject extremely difficult.

The last few years of surgical development have perfected the technic of capable surgeons to such a degree that open operation upon bony structures has ceased to carry the grave misgiving that was formerly felt. Even in the short space of time that I have been in practice much of this change has been brought about. I remember very distinctly as a medical student between twenty-five and thirty years ago when we were taught to have grave respect for the peritoneal cavity and operations upon bony structures other than amputations. The fear of such work at that

time was not imaginary on the part of those masters, as infection was then the rule rather than exception.

The change from this faulty technic of thirty years ago was not a sudden one, but has been a process of evolution and the term Lane technic or any other bodies' technic, is an absurdity on the face of it. It simply means that this particular man is able to apply a perfect surgical technic that all of us know but few are able to apply. A high-class surgical technician to me has been a psychological study as the things required to develop such perfection must form a complete circle, automatic in operation. I have not mentioned the name of Lane with intent to deprecate his skill in any way. I have seen him operate several times and admired his skill greatly. Two points in particular he lays stress upon which every surgeon already knew, but didn't take with sufficient seriousness. His teaching to avoid mussing around and a stand against suturing of the fascia surrounding the soft structures containing the bone to be operated upon is cardinal advice. The reason why he advises not suturing the fascia is, to permit the oozing from the wounded muscle and bone to escape into the subcutaneous tissue where it can be absorbed.

Now if one will go a step farther and specify accurately that the skin stitches should be placed $\frac{3}{4}$ of an inch apart and that they should be set back $\frac{1}{2}$ -inch from the edge to permit the secretions to escape into the dressings, you have a plan that fits best with our present knowledge of this procedure. Attempt to have a perfect skin coaptation is not desirable because of interference with drainage. It has been my practice to personally supervise the change of the dressings in these patients, for the first few days believing that it is almost as important as the operation itself. These dressings are changed daily until the secretions have ceased, which takes about five days in the average case. The first dressings, as a rule, are quite saturated, each succeeding one being less. No doubt there will be someone who will object to this procedure because of the teaching of Lane, and others that the dressing should be undisturbed unless constitutional symptoms indicate that they should be changed; a plan which I am absolutely sure is just as idiotic as the idea

*Read before the Aux. Plaines Branch Chicago Medical Society, Jan. 25, 1918.

possessed by the surgeon who attempts to treat fractures successfully without making frequent, subsequent examinations.

On account of my firm conviction of this method being superior, I have unconsciously, because of necessity, drifted almost entirely away from the use of plaster paris, using instead the yucca board splints, metal extension splints and similar appliances which can either be easily removed and cleansed or thrown away and new ones substituted, and at the same time permitting ready access to the wound itself. One of the cardinal principles in the open treatment of fractures is an incision through the soft tissues generously long. If one tries to work through an opening that is too small, a perfect technic is as impossible as it is to attempt to do an abdominal exploration through a two-inch incision. As to the indications for open treatment of fractures, one should consider the difficulty and comparative danger of the other means of reduction and fixation. It is a well-known fact that many of the fractures are in alcoholics which are on the ragged edge of delirium tremens. These patients are so extremely restless and bear pain so badly and are so impatient even with a liberal supply of booze, that it is extremely hard to have proper coaptation even in the simplest fractures. I have sometimes wondered if we had a counter with a brass rail and sawdust on the floor in the room of these patients if it wouldn't help to control them making them feel more at home. I have in mind now one very fleshy patient who had sustained a fracture of the humerus at the junction of the upper and middle third in which the attending physician had exhausted all known ingenuity in the way of treatment without open operation. The case was seen in consultation and extension, added to the effort already made, with 100 per cent. failure. Open operation was advised and accepted, a Lane plate was applied and the patient allowed to get up on the second day, after which he was very easily managed.

In considering the question of open operation we should also have in mind the fractures that are most likely to result either in failure of union or malposition resulting in more or less modification of function. As an example of this, fracture of the head of the femur might be mentioned.

The frequency with which failure results in the treatment of this fracture makes one wish for a better plan than that of mechanical appliances without open operation. We must also consider cosmetic results, especially in treatment of fractures of the face, a crooked nose, a depressed malar bone or a depressed fracture of the frontal bone, are things that always lead to great dissatisfaction on the part of the patient. In fact, any fracture involving the face that will change in any way the normal appearance of the patient should be avoided. The possibility of injury of other important organs that cannot be clearly made out may lead one to decide in favor of open operation. Examples of this would be: fracture of the ribs, of the pelvis, of the skull or of the vertebræ.

Fractures involving the head of the femur have been so universally bad in the past that it seems to me that a definite conception as to the indications in such cases should be very clear and decisive. While it is true that occasionally one of these cases makes a fairly good recovery without open operation, it is surely a fact that if they are operated on within a reasonable length of time, the majority of them will end in a good functional result. The reason why operation for fractured heads of femur has gotten in bad repute is due largely to the fact that operation is not permitted until the bone has become so rarified that all effort must result in failure. If these cases are all operated on under proper surroundings, the right method chosen and properly applied, there is no reason why there should be such a large percentage of failures. We should remember that the blood supply to the head of the femur is small which will necessarily make repair slower. A wide incision should be made so that perfect technic can be carried out. With a proper fixation of the fracture by long screws, autogenous bone pins, ivory pegs, nails or wiring, success instead of failure ought to be the rule. The majority of fractures through the head of the femur treated by the writer has been through the great trochanter. Next common has been through the neck just inside the great trochanter. The method that is most applicable is the long screws which go directly through the shaft and into the neck and parallel with it. The length of the screw chosen should be determined by

measurement and should go as deeply into the articular head of the femur as is possible without damaging the articular surface. If you cannot be sure of this, the wound may be covered by sterile towels and an x-ray taken. This, however, is seldom necessary. If patients are told that this procedure will promise a more positive result and that it will practically eliminate all pain, there is usually no difficulty in gaining their consent. Of course, in addition to this fixation the contraction of the muscles should be overcome by an intelligently applied Buck's extension, one which runs freely over the pulley and is of sufficient weight to overcome muscle spasm. The most desirable time to operate on these cases is seven to fourteen days after the injury. There are several reasons why this is the most desirable time. At this time the attempt at repair by Nature is well under way, most of the blood clot has been absorbed and in its place callus formation is active and a suitable barrier has been placed by Nature to materially lessen the possibility of infection. One should be careful not to remove granulation tissue or shreds of tissue surrounding the fracture, as it contains the structure and cells which are to finally complete the repair. Each succeeding month lessens the likelihood of a good result and at the end of a year a perfect functional result cannot be had, as at this time there is sufficient rarification of bone so that mechanical fixation cannot be made.

Fractures of the pelvis with considerable displacement should always be treated by open method. The last year or two has added a few little wrinkles to the treatment of open fractures of the pelvis that adds greatly to the percentage of successful cases. Considerable difficulty has been experienced in dislodging the displaced fragments even when grasped by large bone holding forceps. This method should now be displaced and use should be made of the thigh and its pelvic attachments to bring about this result. I have applied it in two instances with equal success in both, and it has transformed a difficult operation into an extremely easy one. The position of the displaced fragment is usually backward and inward, and if the knee is flexed upon the thigh of the fragment side, one arm is placed around the thigh; grasping the edge of the table on the same side we have a fulcrum over which the thigh may

be used as a lever in a perfectly safe and effective manner. The dislodgment should be made before the skin incision is made. If there is still slight displacement, it will be found that when the wires are tightened in the process of the operation, they will come in place with very little effort.

Fracture of the long bones where there is over-riding that cannot be corrected and correction maintained, where there is interposition of soft tissues, or where the patient's general condition argues against long confinement in bed, should be treated, as a rule, by open operation. The best method of repair is either by suturing with wire, fixation with autogenous bone pins, with crossed ivory pegs or by Lane plate. The three methods have been named in regular order of choice. Of course, it is purely a mechanical proposition and the method of treatment best suited to the case must be chosen. A great deal of the enthusiasm for the Lane plate has passed, but there is no question but what it has a valuable place in the treatment of fractures. It should be applied with the idea in mind that it is probably a temporary splint, to be removed later. If it favors union in the most desirable position and its removal is required later, there is no reason why it should be classed as an incorrect procedure. The relief from pain in many instances more than makes up for the slight discomfort and danger of its removal later.

Practically all ununited fractures of the long bones are best treated by open operation and no doubt the most desirable way in the majority of them is either dove-tailing in position or by autogenous bone graft. If there is over-riding, dove-tailing will fit most. If there is failure of union without over-riding the autogenous bone graft is most desirable. Some of my patients have objected to the autogenous bone graft on account of the bone having to be removed from the well leg. This has been overcome by making a sliding bone graft, cutting out the graft the desirable width, making it two inches on one side of the fracture and four inches on the other. Removing the short part of the graft, substituting in its place the long part which completes the bridge. The short part may be laid in on the other side, leaving practically no defect. I like the sliding graft better than removal from the other leg, as it simplifies the operation and makes perfect technic easier. The removal of bone graft by

means of the twin saw, motor-driven, is the nicest way to remove the graft, cutting off the ends with a chisel the same width as the graft. One disagreeable objection to the circle saw is that its speed of 2200 revolutions per minute sprays blood over almost every one in the room. This has been overcome by a home-made shield similar to the safety devices placed over machinery in factories. This graft may be cut straight through to the bone marrow or it may be marked out by the twin saw and then cut out in V shape by a single saw. Cutting straight through is no doubt the best as it can be done quicker and with less danger of contaminating the field. It also provides a graft with the undamaged periosteum on one side and the endosteum on the other, which makes a graft best suited to live.

In grafting old ununited fractures the medullary canal at the fracture point will be found to have disappeared. In such cases the graft must be removed after the use of the twin saw by driving a chisel the same width as the graft underneath. If the graft doesn't set well, it may be necessary to chisel away some of the callous in the bottom of the channel. The graft should be held in place by four kangaroo tendon stitches.

Recent fractures of the nose, as a rule, may be replaced by the use of the Kocher director within the nostril. It may be necessary, however, to temporarily hold in position by a fine pin or heavy needle driven through the skin at the fracture point. In old fractures of the nose the best method is to make a short incision at the base of the nasal bone not more than $\frac{1}{4}$ -inch in length, a chisel of like width should then be selected. The motility of the skin over this region makes it possible to loosen the nasal bone completely without lengthening the skin incision simply by a forcible shifting of the incision itself. As a rule, it is only necessary to chisel on one side and then forcibly replace. If this is found impossible, the same procedure may be done on the other side. After replacement has been made we should then exercise care not to have infringed upon the nasal space on either side. Gauze packing or internasal splints may be necessary. This may be done in such a way as to leave little evidence of operation.

Of course, all depressed fractures of the face should be corrected early. The present military activity has made surgery of the head a tremen-

dous field, especially surgery of the bones of the face. Gunshot wounds and shell fragment wounds many times cause multiple fractures which are infected. Care should be taken in these cases to mold the shattered fragments into position, preserving every fragment that has periosteal attachment. This must be done even if you know they are going to be cast off later by suppuration, as it favors new bone production which may be made to serve an excellent purpose in avoiding deformity. If particles of bone have been entirely carried away, the intervening space should be filled in by vulcanized rubber or by the use of dentist's modeling compound. Fractures of the jaws, with exception of the ramus, are always compound and are inclined to become very foul. This can be best prevented by the use of gauze packing, which has been dipped in the old-fashioned balsam of peru. Efforts should be made while the suppurative process is going on to keep the jaws in as nearly normal position as possible, and to retain the normal contour of the soft tissues of the face. Much good in private practice can come from a better knowledge of the recent English works in plastic surgery of the face and of our own Colonel Blair of Washington University who, I believe, is at the head of the plastic surgery department of the United States Army. One needs only to witness one of his clinics to fully realize the wisdom in choosing him for this position. The simplicity of his manner, the excellence in his work which is made just as simple as his manner, makes him one of the most likable men I have ever met. I would urge that if any of you have an opportunity to attend one of his clinics, that it will be well worth your while. Depressed fractures of the skull, whether causing focal symptoms or not, should be operated upon. The treatment may consist simply in lifting depressed skull or of ligating bleeding points.

Practically all cases of fracture of the spine giving symptoms of pressure upon the cord should be operated upon. If the symptoms of the lower extremities is due simply to hemorrhage, it may be benefited by operation. If the symptoms are due to pressure upon the cord, the earlier the operation is done the better. Of course, damage to the cord itself is permanent, as it has no power of regeneration. Operations for fracture

of the spine is directed almost entirely to relieving pressure and subsequent fixation by suitable frame.

TO SUMMARIZE.

Open operation should be more frequently made use of.

More frequent investigation should be made to determine whether constitutional disease is preventing or may prevent union.

Autogenous bone pins or graft is the most desirable mechanical aid.

That the Lane plate has a useful field, but it should be looked upon as a probable temporary appliance.

That the most desirable time to operate is from seven to fourteen days after the injury.

That a bone graft cannot live except in a clean field.

Contrary to the usual teaching, frequent inspection, if properly made, is not only safe, but desirable.

124 Wisconsin Avenue.

THE NEGLECTED LEUCOCYTE COUNT
FROM A DIAGNOSTIC PROGNOSTIC
AND DIFFERENTIAL STAND-
POINT.*

M. VOORHEES GUNN, M. D.
BLOOMINGTON, ILL.

Of the many valuable clinical laboratory aids to the internist and surgeon, I know of no single laboratory procedure that will give more valuable clinical information than the title above chosen for your consideration this evening.

For this reason it is essential that I consider with you in as brief a manner as possible normal and pathological leucocytosis. For the appreciation of a leucocytosis some standard must be recognized as well as the variation from the normal.

In some cases the leucocytes may have become so greatly diminished by disease, such as typhoid, or by chronic conditions, such as prolonged starvation, that a symptomatic increase is recognized as a leucocytosis only by comparison with the normal count for that state, and if taken by itself, is by no means indicative of disturbance.

In typhoid fever, for example, where the count is below 5,000, as a rule, the leucocytes from some intercurrent inflammatory affection might be evidenced by a count of about 10,000, by no means abnormal in a healthy individual.

Again in the case of a starving man, where the leucocytes may be diminished to as small a number as 1,000, inflammatory processes might produce a leucocytosis of 5,000 or less. On the other hand, after severe hemorrhage there results a leucocytosis, which may reach from 18 to 20,000 the so-called post-hemorrhagic leucocytosis.

The *polymorphonuclear cells* are the cells concerned in all inflammatory reactions. They are increased locally at the site of inflammation where they may accumulate in such numbers as to form pus, and universally in the blood serum.

Their number, therefore, forms an index of the severity of the inflammation, though not exactly of the severity of the infective agent. They give, as a matter of fact, evidence of the *reactionary power of the tissues*. Should the resistance be so diminished that the infective agent, bacteria, for example, meets with little response, there is little or no increase in the leucocytes. In that event (as is seen in some cases of pneumonia) death results from *intoxication*.

If there is great power of resistance the leucocytes appear at the site of infection and either overcome the infective agents, ending by a process of resolution, or accumulate to such an extent as to form pus.

Generally speaking, then, all acute or pyogenic inflammations are accompanied by a leucocytosis, both absolute and relative—relative as regards the polymorphonuclear cell.

Inflammation is denoted by a count of from 15,000 to 20,000; even at this figure the process may subside.

In the stage of suppuration and abscess formation the count rises to 20,000 and upwards to 30,000 or even 40,000; at the same time the polymorphonuclear cells increase from 75 to 80 per cent. or more, and at times even above 90 per cent. It is impossible to give absolute figures as each case must be taken on its merit.

It is true that a count of 25,000 with an increase of polymorphonuclear cells above 80 per cent. is certainly diagnostic of abscess formation, and at 20,000, with an increase of polymorphonuclear cells, most probably so. Nevertheless,

*Read before the McLean County Medical Society, Jan. 8, 1918.

one has seen a count of 20,000, with 80 per cent, of polymorphonuclear cells, in a case of simple fecal obstruction from constipation, which subsided spontaneously, whereas a lesser count has revealed pus, e. g., 15,000 in cerebral abscess.

Leucocytosis is significant of pyogenic inflammation anywhere, whether it concerns a serous membrane, as in meningitis, pleuritis, peritonitis and pericarditis, or a mucous membrane, as in enteritis or urethritis, or whether the pus be accumulating in liver, gall-bladder, ovary, kidney, brain, etc.

Blood examination then reveals the presence of pus, but its situation must be diagnosed by other means.

After evacuation of the pus or subsidence of the inflammation, even if an abscess remains encapsulated, the leucocyte count falls to normal.

With this brief statement of the pathology of normal and pathological leucocytosis, we are better prepared to grasp and comprehend its clinical importance in the differential diagnosis of disease.

Let us now consider the application of the pathology of leucocytosis from the clinical standpoint of differential diagnosis.

A. *From the Surgical Standpoint.*—Leucocytosis is of especial value in three conditions: First, in cases of suppuration unaccompanied by pyrexia, such as are seen in cerebral abscess, and occasionally in appendicitis or other abdominal suppurations. One has seen a patient with very little discomfort and only slight pyrexia operated upon because of a leucocytosis of 40,000, with the result that the abdomen was found to contain considerable quantities of pus; and again, cases of cerebral abscess with a subnormal temperature and marked leucocytosis. Second, in distinguishing the early stage of typhoid fever from appendicitis. (In uncomplicated typhoid fever there is always a marked diminution of leucocytes—a so-called leucopenia: the number falls below 5,000, which contrasts strikingly with the leucocytosis obtained with appendicitis.) Third, excluding appendicitis, a leucocytosis would strongly point to tubular infection and eliminate typhoid fever.

The most recent and valuable contribution to the differential leucocytic count from a surgical standpoint is that of Vaughn, viz.: the advisability of operative or non-operative procedures in malignancy. His conclusions have been drawn

and based upon an experience of over 30,000 blood counts, and I will quote you the most important findings.

In general, it may be stated that cases of early malignancy usually show a decided decrease in the total number of polymorphonuclear leucocytes with a corresponding increase in mononuclear cells.

Thus the differential count in early cancer closely resembles that seen in exophthalmic goiter, syphilis, and tuberculosis (the percentage of polymorphonuclear cells being frequently much below 60 per cent.).

When a tumor is growing rapidly, *and always after metastasis has taken place*, the percentage of polymorphonuclear cells runs above 70 per cent. and is usually much higher.

The differential count in early malignancy frequently varies from day to day, and more decided changes are noticed at longer intervals.

When a high percentage of large mononuclear cells is noticed for several days in succession, the tumor retrogresses during that period. Conversely, when the count shows a high percentage of polymorphonuclear cells for a continued period, it signifies rapid tumor growth. Indeed, during such periods the microscopic character of the tumor cells occasionally assumes a more malignant type.

The study of this large series of blood counts, besides furnishing the foregoing data, revealed one fact of decided clinical importance, namely, that metastasis does not usually occur until the percentage of polymorphonuclear cells *becomes high and remains so*.

In other words, metastasis does not occur until the immune mechanism has broken down and is no longer capable of being stimulated to renewed function.

Neighboring lymph glands may be slightly involved, while the immune mechanism is still intact, but no advance metastasis can occur during this period.

From this can be seen that if the first differential count in any case of malignancy shows a high, large mononuclear count and a low polymorphonuclear count, we can conclude that metastasis has not occurred, and that the case is *operable*.

If the count shows a high polymorphonuclear and a low mononuclear percentage, then we have at our disposal the wherewithal to test whether

the immune mechanism has been destroyed or whether it is simply an interval of increased tumor growth.

This is ascertained by injecting about 1 c.cm. of placental residue intraperitoneally into the patient and taking daily differential counts thereafter.

A twenty-four to forty-eight-hour decrease in polymorphonuclear cells signifies that the immune mechanism is still intact, and metastasis has not occurred and, therefore, that the case is operable.

No change or an increase in polymorphonuclear cells with a corresponding decrease in large mononuclear cells shows inoperability because of metastasis. Such patients actually receive harm and their end is hastened by surgical intervention, unless such a procedure is indicated for palliative reasons.

B. From the Internists' Standpoint.—The season of the year is near at hand when a leucocytosis becomes an important diagnostic feature in those pneumonias of the aged and the young, where there are no localizing symptoms as, for example, in central pneumonias.

Sometimes differential diagnosis can be made between diphtheria and simple follicular tonsillitis. In the former there is no leucocytosis, in the latter leucocytosis may vary from 10,000 to 30,000.

Leucocytosis, indicating as already stated the extent of the inflammation, is occasionally of prognostic value.

In pneumonia the leucocytes show constant variation, though in these cases the blood count is seldom performed, as the clinical differences are more important, and the prognosis depends, not so much on the leucocytic response, as on the virulence of the toxin, and its action on the tissue. There is, nevertheless, a constant change in the leucocytes. In the case of lobar pneumonia, running a normal course, the leucocytes increase early, reaching from 20,000 to 30,000, and fall either just before or after the crisis. Leucocytosis is maintained in delayed resolution, and in empyema or abscess formation. Leucocytosis is absent in the early stages of fatal cases, with severe intoxication, and in mild cases with good resistance. The distinction between these is easily made. In pneumonia then the leucocytosis can be taken as an indication of the severity of the reaction to infection. It has been pointed

out that all pyrexias are not associated with changes in the leucocytes, but only those that are accompanied by pyogenic inflammation.

In measles, malaria and tuberculosis there is never a leucocytosis. In scarlet fever the leucocytes may vary between 10,000 and 40,000 and the polymorphonuclears may average 90 per cent.

In smallpox leucocytosis appears only with suppuration and formation of pustules, while previously there is a steady diminution of polymorphonuclear cells.

Although in typhoid fever leucopenia is the rule, a leucocytosis is found with suppurative complications, such as empyema and also when the typhoid bacillus acts as a pyogenic organism in parts of the body other than the intestine, as in periostitis, cholecystitis and pneumonia. But it must be noted that the polymorphonuclear cells are always relatively fewer than in other pyogenic inflammations, though increased absolutely in contrast to the numbers found in uncomplicated typhoid infections. Leucocytosis in the course of typhoid accompanies such complications as peritonitis, empyema, and pneumonia, though the absolute leucocyte count may not be very high, as compared with the normal healthy count.

In perforation the leucocyte count is of some assistance when there is any reason for doubt, but the remarks as to the absolute figures mentioned above must be borne in mind.

A progressive increase in leucocytes, for which purpose the blood should be examined hourly, is significant. A count of 10,000 might represent a leucocytosis in typhoid. By this means it is sometimes possible to diagnose the local peritonitis that precedes the perforation and thus by early operation give the patient a better chance of recovery. In fulminating perforations there is no leucocytic response and the same applies to cases of appendicitis. In septicemia the leucocytic variations are indefinite. In pyemia with definite collections of pus there is a marked leucocytosis with a relative increase in the polymorphonuclear cells.

Eosinophilia—The coarsely granular polymorphonuclear or eosinophiles, which we do not consider to be markedly different from the true polymorphonuclear cells, are often increased in asthma of the true bronchial or idiopathic type, where they reach 10 to 15 per cent. and so may be of

assistance in distinguishing this type from the symptomatic asthmas.

In some cases of skin diseases, such as pemphigus and urticaria, and in parasitic infections such as trichinosis, echinococcus disease, and the common intestinal worms, an increase of these cells is obtained, and occasionally a diagnosis of the condition can be made on this fact alone.

I desire at this time to call your attention to a fact not universally recognized by physicians that many errors have been made in differential diagnosis between typhoid fever and trichinosis. At the Cook County Hospital many cases diagnosed as typhoid by experienced clinicians, proved to be trichinosis. The clinical syndrome that led to this error was pain, muscular soreness and tenderness, the pyrexia curve simulating the one obtained in typhoid, of the continued type and varying less than a degree. Whenever you have a patient running a temperature like typhoid who continually emphasizes and constantly complains of muscular pains, exquisite tenderness to touch and soreness of these structures, think of trichinosis, make a blood smear and make or have made a differential count; by so doing errors of this kind will less frequently occur.

Cerebral irritation occasionally considered organic will be found to be reflex (gastrointestinal), due to parasitic infections, and many other clues of clinical value obtained.

The clinical value of a leucocyte count from a prognostic standpoint has been logically defined and tersely stated by Hewitt (*Annals of Surgery*, August, 1917) and may be summarized as follows:

(A) The absolute count alone is of questionable value; but the polymorphonuclear count alone is usually a reliable diagnostic index. Yet the two, when correlated, are of greater value than either taken alone, especially so in prognosis.

(B) When both counts are high, the prognosis is good.

(C) A high absolute with a moderately low polymorphonuclear means generally a good prognosis, but a low absolute with a high polymorphonuclear count generally indicates a grave prognosis.

(D) When both counts are low, there is usually no infection.

(E) Normal or subnormal figures do not

necessarily indicate the absence of suppuration, gangrene or their sequelæ.

(F) Catarrhal cases, moribund cases and walled off abscesses frequently do not stimulate leucocytosis.

Lymphocytosis—Variations in the mononuclear leucocyte are significant. An increase of the small lymphocytes, i. e., a lymphocytosis, is found in gastrointestinal disturbances of children, in whom it must be remembered there is a relative lymphocytosis as compared with adults. In infancy this type of cell ranges from 40 to 60 per cent. and gradually diminishes with age.

Lymphocytosis is constant in whooping cough, even in the catarrhal stage, during which the presence of a leucocytosis of 40,000 coupled with a large increase in the lymphocytes, even from 40 to 50 per cent. in an adult, has led to an early diagnosis.

This has proved to be especially valuable in the cases of nurses who have been isolated before the characteristic cough appeared.

As to the appearance of this type of cell in the leukemias from a diagnostic and prognostic standpoint, no doubt you are fully informed.

Every live medical man, be he young or old, should be continually on the lookout for something that will increase his efficiency. With the majority of practitioners, the sins of omission are usually far greater than the sins of commission; in other words, the average doctor of today errs more on the side of laxness than from the exhibition of an over-plus of effort or enthusiasm in his attempts at careful diagnosis.

Laboratory methods of diagnosis like clinical methods have their limitations, and if relied upon alone, frequently lead to incorrect interpretations. When correlated mental conceptions of pathological processes become more clearly defined, errors in judgment are less likely to occur.

In conclusion I desire to urge you older practitioners and busy internists to give more consideration to the value of the clinical laboratory in diagnosis. Negative findings upon the part of the laboratory technician will not only ease your conscience, but will enable you to differentiate the clinical syndrome with a greater degree of confidence.

The strongest fortification of defense I have any knowledge of is constructed of four words, namely, typhoid, malaria, lagrippe and threat-

encl. For years the medical profession has been playing hide-and-go-seek behind these breast works of defense to the detriment of humanity, and retarding the advance of scientific medicine.

As a picture sometimes, even if drawn by a poor artist, is more impressive than words, I herewith submit one for your consideration and I trust it may forcibly convey to all of you the value of clinical laboratory methods.

1206 North Madison Street.

PROBLEMS OF THE MEDICAL OFFICER OF THE NAVY.

H. E. ODELL,
Medical Inspector, U. S. N.,
GREAT LAKES, ILL.

As naval and military affairs are at present much more prominent than normal in the country, it occurred to me that something of the duties of the naval medical officer, the part wherein his life differs essentially from that of his brother practitioner in civil life, might be of more interest than the discussion of disease or some problem in sanitation.

The naval medical officer is one of the parts of the great machine that goes to make up the nation's first line of defense in time of war, and which in time of peace plays no small part in the social intercourse of nations.

Entering as we all do from civil life our first problem is to adjust ourselves to the changed environment, its peculiarities and necessities, so that the cog which we form in the machine shall move with the least friction and greatest efficiency. We are charged with the maintenance of the health of the personnel of the navy, to reduce the wear and loss in the fighting machine from a health standpoint to its minimum, as any interference from this cause has a far more serious effect than is generally appreciated upon the value of a ship as a fighting unit. One can realize that if carried to a sufficient degree the fighting ship ceases to be such, and might become a floating hospital, a source of expense to the public with no ability to efficiently carry out its proper function.

From the earliest times in the wanderings of men at sea it was realized that those forming the crews of vessels were subject to the various

diseases of the ports visited as well as certain diseases peculiar to ship life. Scurvy, while not confined strictly to the sea-faring man, was a much more common disease on board ship than it was ashore. Perhaps one of the most striking examples of the ravages of this disease is recounted in the narrative of Anson's voyage around the world in the eighteenth century when man after man was lost in sight of land which could readily have been reached had only a sufficient number of healthy men remained in the crews to have worked their ships to anchor where the means of checking and curing the disease could readily have been obtained.

Early in our career as a nation the need for the medical man afloat was appreciated and provided for by the Government. To secure the most efficient operation of this department, a bureau was created under the Secretary of the Navy, whose duty it was to look to the health and sanitation of the naval service.

The Bureau of medicine and surgery has as its head the surgeon general, a medical officer who is responsible for the proper operation of this department. Our duties are divided into periods at sea and ashore, the former being more nearly fixed as three years is usually considered the time of such duty, while the shore period is more variable, but is usually of about two years' duration.

In order to more promptly familiarize the recently appointed medical officer with his duties, a school is maintained in Washington for the purpose of instructing the novice in the duties expected of him, to acquaint him with the rules and regulations of the service necessary for the proper operation of the medical department in its relation to the other branches of the service, and to accentuate and enlarge upon those professional branches that experience has shown to have a larger bearing in the naval service than is generally considered to be the case in civil life, viz., tropical medicine, hygiene, surgery under naval conditions, and the laboratory work associated with these studies.

On board ship at a definite hour each day, a sick call is held at which time those members of the crew, who wish to consult the doctor, present themselves. This, by no means, ends his professional duties as he is subject to call at any time during the twenty-four hours as is his brother in

civil life. In addition the medical officer has certain duties to perform in connection with practically all of the various drills held on board ship. The drill periods occupy most of the forenoon hours, one or two hours in the afternoon, and are of frequent occurrence at night. He must make himself familiar with the structural characteristics of the ship, the efficiency of its ventilating system, and all of its sanitary features. Once each week, and oftener if deemed necessary, he must make a thorough inspection of the entire ship and report in writing any sanitary defects found, submitting recommendations for their correction. Should contagious disease appear on board his labors are greatly increased as examinations of the personnel and ship must be of daily occurrence. He must be prepared to care for any surgical work that may present itself, and accident surgery is extremely liable to be encountered during rough weather, for reasons which are obvious. He must instruct the various officers in first aid, who in turn impart this instruction to the men under their command so that hurried dressings can be applied when practicable during naval engagements.

In the navy the primary object of the existence of the ship as a fighting vessel must always be borne in mind. During an engagement the welfare of the wounded individual is primarily in the hands of his mates, and is decidedly secondary to fighting, success in the engagement being the only thing that counts.

After much thought and trying many methods, it has been concluded that the medical officer and his staff can ordinarily render but very little aid to the great mass who may be wounded during an engagement, but as soon as this is terminated or should a lull occur, he as rapidly as possible renders all the aid at his command. As is well known, after the Emden was destroyed the medical officers worked from the termination of the engagement until they fell in with the relief ship sent to their aid. They worked continuously for twenty-four hours.

It might be presumed that the medical officer and his staff are kept in some safe place while the ship is in action, but no such place exists on a man-of-war. The records of naval engagements show that medical officers have paid the price of naval duty to fully the same extent as officers of any other class.

When cruising in tropical waters the medical officer must keep constantly informed of the diseases prevalent in ports visited, and the sanitary conditions of the towns and their vicinity, where members of the crew are liable to wander in their periods of shore leave. Expeditionary forces have more frequently been landed in tropical and oriental countries than elsewhere, and some tropical disease or diseases, such as yellow fever, malaria, dysentery, cholera or plague are almost sure to exist in the vicinity. The medical officer lands with this force and upon him falls the responsibility of making such recommendations as to prevent the introduction of these diseases into the command.

In addition to the duties enumerated above there are many others, boards, courts, etc., that help to fill out his day. On shore his duties are in naval hospitals, navy yards, at recruiting stations and a certain number are engaged in the bureau of medicine and surgery in operating the medical department of the service.

The professional work in naval hospitals does not differ from that of civil institutions, but in addition the naval medical officer has many other duties. He is responsible for the care, cleanliness and discipline in the hospital, its maintenance and upkeep in every way, food for the personnel, diets for the sick, fuel, ambulance service, beds and bedding, drugs, all medical and surgical equipment and appliances, the keeping of the necessary records, making reports and returns, training of attendants, keeping the families or friends of the sick informed of their condition, and the disposition of the dead.

Our navy yards are large industrial establishments employing many thousands of men, each of whom must be given a careful physical examination before he is employed to ascertain whether he is physically fit in order to avoid unjust claims for compensation for injuries not received in the performance of duty. He must render treatment to the injured employees. This formerly consisted of but first dressings, but has now been extended to the whole care of the case should the employee see fit to present himself at the yard dispensary for treatment. In addition to these duties the yard surgeons must make sanitary inspections of all buildings and shops weekly, reporting the same and making recommendations for correction of the defects found.

At recruiting and training stations he prevents those who are physically or mentally undesirable from entering the service, and in the latter in addition to occupying a position similar to that of the surgeon of the navy yard, must weed out those defectives whose ailments were not evident to the recruiting officer. He should be especially apt in recognizing contagious disease which might become epidemic in the garrison, or which might be carried by a member of an outgoing draft to some ship.

The enormous expansion of the service in consequence of our entry into the present war has necessitated a corresponding enlargement of the medical personnel and staff. Before the war we were caring for something less than 100,000 men with a few over three hundred medical officers, whereas now the naval personnel numbers over 300,000, and we had about 1,700 medical officers according to the last figures that I have received. There is a great need for more doctors. The three hundred and odd medical officers in the navy when the war began had, in a great measure, to bear the burdens of this enlargement, not that our brothers in civil life have not come to our aid, but because of the peculiar duties of the naval medical officer above enumerated, with which they were not familiar, prevented their assuming an equal share of the burden. Naturally, the larger number of these doctors were recent graduates who had yet to gain that experience that only can be obtained in practice, extended hospital training and study.

The doctors have entered the service with that splendid enthusiasm of the profession which needs no comment from me. All anxious to do their part, and with the older men, many great financial and home sacrifices have been made. These older doctors are of the greatest value to us as employed in the branches of the profession in which they have specialized they are used in guiding and assisting the younger members in the development of their professional talents, while we of the older service have had to devote our time to the expansion necessary to accommodate the greatly increased number of patients, to the executive and administrative features from the naval standpoint, in addition to the duties in the fleet that could not be delegated to those who have so recently taken up a naval life.

This is but a very brief and incomplete sum-

mary of the problems of the medical officer of the navy, but I hope has had some points of interest for you.

THE SYMPTOMS, DIAGNOSIS AND TREATMENT OF ACUTE ANTERIOR POLIOMYELITIS.*

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Acute anterior poliomyelitis is a general infection with a tendency toward secondary nervous involvement. This conception is the basis of Draper's¹ three groups. He calls the first group the "dromedary" group because it presents two periods of illness with an interval of well being. The first period represents the systemic infection and is characterized by fixation of the virus in the spleen and bone marrow. The second period denotes the secondary cerebrospinal involvement and the invasion of the cerebrospinal spaces. In the second or "straggling" group the rather clear-cut interval of well being gives way to a sustained period of indisposition. The third or "sudden onset" group is characterized by nervous involvement from the onset. The classifications of the disease are as variegated as its manifestations. Without burdening the discussion with the numerous interpretations we may adopt the simple clinical classification emphasized by E. K. Armstrong of an acute infectious disease which may be paralytic or nonparalytic. The non-paralytic cases comprise the so-called abortive cases which correspond to the first hump in Draper's "dromedary" as well as those with meningeal irritation without subsequent paralysis. The paralytic type may be divided into the common lower neurone or bulbo-spinal type, the upper or cerebral type and the combined.

With these possibilities in mind we are in a better position to understand the variable symptoms. It must be borne in mind, however, that not all the symptoms even of the general infection are present in any one case.

SYMPTOMS.

The incubation period is from two days to two weeks.

The onset is usually sudden following a period

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of well being with fever, drowsiness, irritability, hyperesthesia, anorexia, pain and often tremor of muscle groups. There may be gastro-intestinal disturbances, angina, influenza like attack or an onset with meningeal symptoms. Owing to the indefiniteness of the symptoms patients often overlook the seriousness of the illness until paralysis sets in.

Temperature often reaching 104 or 105 degrees persists from three to five days, but in the stragglers may last seven to fourteen days. It may remain about 100 degrees after recovery has well advanced. In a series of 400 cases Wilson² found two per cent. had no history of fever. There is no typical temperature curve although some cases terminate by crisis.

The pulse rate is high.

Gastro-intestinal disturbances are common and may be the most prominent feature. About half the cases give a history of persistent constipation for a few days. In the 1912 epidemic in western New York of 264 cases 85 per cent gave a history of constipation. Vomiting occurs in about one-third of the cases, and there is often abdominal tenderness].

Sore throat is frequently the most noticeable symptom, and when coupled with palatal paralysis simulates a post-diphtheritic paralysis.

Drowsiness is a conspicuous feature even to such an extent as to simulate coma. However, the child is easily aroused and is bright mentally. It is striking that the mental activity persists to the end. The indisposition is mostly due to pain and discomfort.

Irritability is pronounced, due to pain accompanied by restlessness.

Coarse twitchings of parts of the body as the arm, leg or face are significant. This phenomenon is known as Colliver's³ sign. The movements are explained as preliminary irritation of the anterior horn cells before degeneration occurs.

Perspiration is frequently seen, particularly in severe cases. This persists well into the period of convalescence and is ascribed to a connection between the motor and sweat governing cells.

Muscular weakness during the acute stage is more apparent than real, since after the acute stage passes off the muscles are surprisingly active.

Pain and tenderness has been analyzed by Fraser into three varieties, first, the hyperesthesia

of the skin itself; second, that due to pressure on the deeper muscular tissues, and, third, the pain elicited only when a part is moved due to stretching of muscles, tendons and articular structures.

The spine sign is an important symptom and is usually present. Attempt to anteroflex the spine produces pain, and the neck is held rigidly giving the pictures of meningeal involvement.

Falling back of the head when the shoulders are raised is equally constant and considered by many pathognomonic of poliomyelitis.

Motor phenomena are as varied as may be imagined. Motor disturbances may involve only a small group of muscles, probably never a single muscle. There may be complete paralysis of a muscle group or only slight weakening. If the upper neurone is involved spasticity results. Usually these become flaccid from subsequent lower involvement. In the common bulbo-spinal variety there is a flaccid paralysis. In addition to the ordinary lesions of the lumbar and brachial enlargements there quite frequently occur facial paralysis and involvement of the urinary and anal sphincters. Of greatest importance is the condition of the respiratory muscles since death is a likely result in those cases. The picture of intercostal paralysis is clear cut. The chest is fixed, and breathing is abdominal. The efficiency of the respiratory muscles can be tested by pressure on the thorax to determine the action of the diaphragm, and by pressure on the abdomen to test intercostal efficiency and that of the accessory muscles.

The reflexes are of interest and vary depending on the pathology. They are absent or diminished most frequently, but may be exaggerated or unequal on both sides.

The sensory symptoms may be due to posterior ganglion involvement it has been suggested. In bulbar cases hyperacusis is present.

The blood picture shows a count of twelve to fifteen thousand leucocytes of which four to six per cent are eosinophiles as reported by Francis.⁴ There is a slight increase in polymorphonuclears and diminution in lymphocytes.

The spinal fluid is abnormal in practically all cases in the first week. By the fourth week only 50 per cent are abnormal after which the proportion rapidly falls.⁵ Studies by Peabody and Draper⁶ and Fraser⁷ shows that there is no relation between the spinal fluid findings and the

onset of paralysis. The fluid comes out under increased pressure, but it rarely spurts, resembling the fluid in other acute infections. Although clear at first a thin web may form on standing. The cell count is usually increased, varying markedly in number. At first the polymorphonuclear cells predominate, later the lymphocytes. Occasionally large mononuclear and irregular cells are found, probably of endothelial origin. Fehling's solution is promptly reduced. Albumin is increased and globulin reactions are positive in about 50 per cent of cases in the first week, increasing in proportion to the third week. These findings may persist eight to ten weeks. Zingher⁸ describes a slight opalescence giving a ground glass appearance when the fluid is held to the light. In Lange's test a precipitate occurs in the luetic zones. Coccoid organisms are described in the spinal fluid by Nuzum⁹ and Gauss.¹⁰

COURSE.

The course of the disease varies depending on the group into which the case falls in Draper's classification, the "dromedary," straggling or sudden onset group. Fraser⁵ divides the course of the disease into four stages. The incubation period of good health, the preparalytic period with its sudden onset lasting two to fifteen days, usually present in epidemics, the stage of paralysis or weakness which may progress as long as ten days and the fourth period or stage of subsidence of symptoms. During this time the pain and tenderness disappear. Although usually the course is gradual, sudden changes may occur. Cases which appear to have reached the height of involvement within twenty-four hours may suddenly advance with respiratory paralysis and death. The immunity seems to be suddenly overcome by the active forces of the disease.

DIAGNOSIS

The diagnosis may be made on the presence of an epidemic, history of exposure and the onset with the symptoms of an acute infection followed by the more pertinent symptoms of hyperesthesia, headache, irritability, drowsiness, though easily arousable, rigidity of the neck, falling back of the head, the "spine sign," Colliver's coarse twitchings and the spinal fluid findings of increased cell count, the presence of globulin and a clear fluid under increased pressure. The early symptoms are only diagnostic of an acute infection.

Later the signs of meningeal irritation, spinal fluid findings and nervous involvement are manifested. The most common difficulty in diagnosis is the resemblance to epidemic meningitis. The character of the spinal fluid and the presence of the meningococci determines the diagnosis. The same holds true for the other purulent meningitides. Tuberculous meningitis may be simulated. The spinal fluid in this case may contain tubercle bacilli and injection of the fluid into a guinea pig may facilitate the differentiation. Tuberculous meningitis terminates fatally, while poliomyelitis manifests paralysis and usually recovers. There may be a primary focus evident in the former case and also choroidal tubercles. Syphilitic meningitis is determined by a positive Wassermann test and precipitation in the lower dilutions in Lange's test. Other diseases to be excluded are gastro-intestinal disturbances, rickets, scurvy, acute arthritis, and tuberculosis of the hip.

TREATMENT

The specific treatment of this disease depends on the determination of a specific organism. It has been found that serum of convalescent patients contains opsonins for the coccus found in the brain and cord.¹¹ It is logical to suppose that antibodies are developed during the course of the disease and that injection of patient's serum should have a beneficial effect on the course of the disease. Convalescent serum has been used quite extensively. It may be administered intraspinally, intravenously or intramuscularly since the disease appears to be a hematogenous infection. The serum drawn off from the blood or whole citrated blood may be given. The dose intraspinally depends on the amount of spinal fluid withdrawn. Intramuscularly large amounts, as high as 100 c.c. may be given. The reports of the serum administration are not decisive. It is the opinion of those that have used convalescent serum that there is a definite beneficial effect with which one is impressed on treating individual cases, but which does not lend itself readily to statistical demonstration.

Immune sera have been produced independently by Rosenow¹² and Nuzum¹³. The results of the specific serum are suggestive and much may be expected from this line of study. However, exact demonstration of its value is as difficult to obtain as in the case of convalescent serum. In the comparison of treated and un-

treated case parallel series are extremely difficult to obtain. Two factors must be constantly kept in mind in judging results. First, the paralysis tends to improve spontaneously, and, second, death is due to respiratory paralysis. Since one cannot measure the amount and extent of spontaneous improvement and since cases vary so markedly in virulence it is especially difficult to compare one set of cases with another. It is to be expected that the time of treatment is highly important. No amount of serum will restore degenerated anterior horn cells. Does the serum prevent the development of respiratory paralysis? So far it can only be said that the impression one receives in using sera, convalescent or specific, is that they exert an appreciable beneficial effect. It will require large series of cases to prove that paralysis is prevented or lessened and that the mortality rate is lower.

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BIBLIOGRAPHY

1. Draper, G.: Jour. A. M. A., 1917, LXVIII, 1152.
2. Wilson, May G.: Am. Jour. Dis. Child., 1917, XVII, 506.
3. Colliver, J. A.: Jour. A. M. A., 1913, LX, 813.
4. Francis, F. D.: Ill. Med. Jour., 1917, XXXI, 301.
5. Fraser, F. R.: Bost. Med. & Surg. Jour., 1916, CLXXV, 83.
6. Peabody and Draper: Am. Jour. Dis. Child., 1912, III, 7.
7. Fraser, F. R.: Jour. Exp. Med., 1913, XVIII, 242.
8. Zingher, A.: Dept. Health, N. Y. City Rept. Series, Mar., 1917, No. 54.
9. Nuzum, J. W.: Jour. A. M. A., 1916, LXVII, 1487.
10. Gauss, H.: Jour. A. M. A., 1917, LXVIII, 779.
11. Mathers and Tunncliff: Jour. A. M. A., 1916, LXII, 1935.
12. Rosenow, E. C.: Jour. A. M. A., 1917, LXIX, 261.
13. Nuzum and Willy: Jour. A. M. A., LXIX, 1247.

SOME OBSERVATIONS ON GOITER.

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In the practice of medicine and surgery, we find that the treatment of various diseases is a matter of progressive development. There are many fads, but out of these fads come sound medical and surgical principles, which find an abiding place in our knowledge, and in the practice of our art.

In my own short experience I can recall how the vermiform appendix gradually became recognized as a surgical entity. And a little later how the gynecologists began to work out the many problems connected with defective pelvic organs. Then later, the work on stomach and gall bladder had its development, so that now the extirpation of the gall bladder or part of the stomach,

and the various plastic operations on the latter organ are of rather common occurrence.

The study of the ductless glands, and particularly of the thyroid, has attracted the attention of pathologist, internist and surgeon alike, and as the various attempts to treat diseases of this organ medically, electrically, and otherwise have failed, we have come to recognize the fact that a diseased thyroid is a surgical condition, and that the effort to treat it otherwise is time and energy wasted.

Ochsner begins his book on the thyroid with the words: "The first decade of the present century has added the treatment of the diseases of the thyroid gland to the surgical side of our art," and I might add that the second decade has clarified our notions of this subject and put them on a more sound and rational basis.

What I wish to do tonight is not to give you a highly technical or exhaustive treatise on this subject, for any text-book will give you that, but rather to outline a few practical points and observations concerning this condition and its treatment. If some of my ideas and deductions are wrong, I hope you will disagree with me and I shall be more complimented if you do so than if you say it is a very fine paper, as we all have done so many times.

First as to the causation of goiter. We live, here in the Mississippi valley, in what one man down east aptly designated the "goiter belt." Why should the middle west have more enlarged thyroids than the east? It is true that you see more large necks on the street and more thyroidectomies in the hospitals in our part of the country than elsewhere. Furthermore, the condition is on the increase with us. I have a theory to account for this which followed a suggestion offered by my fellow-worker, Dr. Hart. Switzerland, as we all know, is the original home of goiter, and it is here that Kocher did his pioneer work in its surgical treatment. The Swiss think that the water is responsible for the prevalence of the trouble. The water, that is the drinking water, of that country is largely, I take it, of glacial origin and carries in solution certain ingredients which have this effect on the thyroid gland. We in the Mississippi valley formerly drank largely of surface water and while our fathers may have had plenty of typhoid and malarial breeding mosquitoes, yet they did not

have much goiter. As the country became more settled, we drained off our surface water and began to go deeper, with deeper and deeper wells for our supply, and have tapped the glacial drift, which, if I have not forgotten my geology entirely, covers a large portion of this part of the country. In this way, our water contains the same or similar ingredients to that of Switzerland, and hence the prevalence of the disease.

As to the pathology of the disease, we had a very learned and exhaustive treatise on that a few meetings ago by a young man who kindly came down from Chicago to enlighten us on this subject, but from a practical standpoint, I would make a much more simple classification. Goiters are either of the simple, benign type or the toxic type, and it is difficult to say where the one leaves off and the other begins. The simple may suddenly or gradually take on the characteristics of the other variety.

Judd, in a rather recent article, groups goiters into four classes:

1. Simple colloid goiters, either of adolescent type or produced by small adenomas which appear at the menopause.
2. Adenomatous pressure thyroids, with usually single large adenoma and several smaller ones.
3. Toxic goiters, including those designated as hyperplastic and also the so-called degenerating adenomas or thyrotoxicoses.
4. Malignant goiters.

He further says: It is now generally conceded that most forms of goiter require surgical treatment for permanent relief. However, there is one form—the so-called adolescent goiter, which responds to medical management—and often some of the milder toxic types may be relieved without operative interference.

Groups two and three are the ones in which surgical interference gives the most benefit; in the former to relieve pressure and in the latter to get rid of the toxemia.

Bartlett of St. Louis in a recent article says, in quoting from Balfour of the Mayo clinic:

The same author (Balfour) is convinced that no distinct line can be drawn between toxic and atoxic goiters, as is shown by the following: "It is well known that goiters which for some years have produced no recognizable symptoms may gradually become associated with marked degenerative changes in other organs, particularly those of the cardiovascular system."

And Judd says in discussing the toxic group of goiters:

The thyrotoxic patient has no definite tremor though there is often nervousness from exhaustion. The pulse is that of a dilated and damaged heart and usually there is a marked increase in blood pressure. In

most instances a person suffering from a thyrotoxic goiter has actual damage to the heart muscle.

There is a marked analogy in the effect produced by these goiters and that of a renal lesion. I saw in consultation a few weeks ago a patient with all the symptoms of a typical cardio-renal case and yet I am of the opinion that her condition was due to her goiter.

Really there are no benign goiters, but all possess the possibilities of making serious trouble. Goiters may produce few or many symptoms. Of course the most noticeable is the cervical enlargement and many operations are undergone simply for cosmetic reasons. Local pressure symptoms are very frequent and require relief. I have had many patients complain of difficulty in swallowing, due to pressure from the thyroid isthmus on the trachea and transmitted to the esophagus. And I am not so sure but that the classical symptom called the "Globus Hystericus" is a misnomer and credit should be given to the thyroid gland and not to the uterus for the symptom. There is another class of cases with a moderately enlarged thyroid or may be an isthmus, with "nervous" symptoms and a tachycardia without the exophthalmos and the severe toxic symptoms of Graves' disease, which need attention and these are the cases which are most apt to be overlooked. If you have a patient who is nervous, run down, with a rapid heart, whose condition you cannot account for on any rational basis, examine the thyroid and see if that is not where the trouble lies.

Any one can make a diagnosis of the typical Graves' disease with the three classical symptoms of enlarged thyroid, exophthalmos, and tachycardia, and especially if you have added the tremor, diarrhea, nausea, and delirium which accompany the later stages, but if we learn to recognize the condition earlier we have a much better chance to effect a cure and our work will be attended by a much lower mortality.

It has been my misfortune to have under observation quite recently three cases of this condition in its advanced stages: One a case in which one lobe and part of the other had been removed at the Mayo clinic, but in which the symptoms recurred and she suddenly went to pieces and died in a few weeks of acute hyperthyroidism. This case is one in which the

surgeon can not be blamed for the results as she went to Rochester about six or eight years too late and was in a serious condition when operated on. She did improve for several months but the condition finally recurred.

The second, in which we tried to check the progress of the disease by a double ligation of the superior thyroid arteries. The patient, however, became progressively worse and succumbed.

The third, in which nothing was done except to keep the patient quiet. This case also had an equally disastrous termination. These three cases have taught us the necessity for the early treatment of this condition, and in the light of recent knowledge that any goitre can become toxic, it is the duty of the physician to advise the removal of a goiter the same as he would a sore appendix.

There is a marked similarity between the recurrence of acute exacerbations of toxic thyroids and attacks of recurrent appendicitis. And as in appendicitis, the ideal time for operation is not in the attack but during the interval. Rest in bed and sedatives are the things necessary during these attacks, and the mortality is greatly decreased by waiting until the attack has subsided before operating.

There is doubtless an intimate relation between goiter and tonsils. This is particularly true of the adolescent type. We have removed tonsils with beneficial effects on enlarged thyroids, and have removed the thyroid and have had to have the tonsils removed later.

In the surgical treatment the question arises: How much or how little of the gland to remove. Formerly the answer was, to remove the diseased or enlarged portion, one lobe or the other, and possibly the isthmus. This may be well in those cases in which there is a localized cyst or a single adenoma, but in the vast majority of cases we have no assurance that we will cure our patient unless we remove a relatively large amount of the thyroid as a routine procedure. It has been the experience of the large clinics that a considerable number of cases in which only a large part of one lobe has been removed have to be re-operated on. I have never visited any of them without seeing some of these secondary operations. So it has come to be our practice to not only attack the part of the gland which seems

to be most involved but to remove three-quarters to four-fifths of the entire gland by means of a double lobectomy or, as Bartlett terms it, a subtotal thyroidectomy. This we believe to be the ideal operation and the one which will give the best results uniformly.

Judd, in the same article referred to above, says:

There has been considerable discussion as to the amount of the thyroid which should be removed. Extirpation of the entire gland will result in serious changes from loss of thyroid secretion. On the other hand, if a sufficient quantity is not removed, there will be a recurrence of the symptoms. However, it is comforting to know that at least experimental work on animals has shown that if a very small piece of thyroid tissue is retained with its circulation and nerve supply, myxedema will not develop. In many of the operative cases a very large part of the thyroid has been removed.

Bartlett says:

Incomplete relief for a comparatively large percentage of toxic goiter patients after unilateral thyroidectomy, long ago convinced me that something more extensive in the way of operative therapy was indicated in many of these cases. It was then natural to add ligation of the opposite thyroid vessels and later on a partial resection of the second lobe at the time of the original operation. It was only after being driven to a considerable number of secondary partial lobectomies that I became thoroughly convinced that we must make the original operation more extensive than had heretofore been contemplated if we were to expect the complete relief of toxic symptoms in a large percentage of these patients.

It has been the practice of Dr. Hart and myself for some time to remove a large portion of both lobes, and to also remove the isthmus, with the possible exception of the posterior portion, and thus free the trachea from pressure. We had done this even before the articles of Judd and Bartlett were published, and our results have been very satisfactory both from a therapeutic and cosmetic standpoint. The operation need not be prolonged, our average time being from fifty minutes to an hour. We drain all our cases and remove the drain in from 24 to 48 hours. No muscles are cut except the platysma, which adds largely to the comfort of the patient. The patient sits up the second day and usually leaves the hospital at the end of a week. I think the average goiter case has no more discomfort than the average tonsillectomy.

As to the anesthetic, I have seen different operators use various methods, from the com-

plicated anoci association of Crile to the straight ether as used at Rochester, though I believe they are now using ether and novocain there, also local anesthesia in New Orleans and also by Bainbridge of New York, who uses some novocain and more argument and tries to make his patient believe he is not being hurt.

For my own part, I am convinced that ether by the drop method, with morphin 1/6 and atropin 1/150 thirty minutes before is the most satisfactory anesthesia. We use no strained or extended position of the head or neck, but instruct the anesthetist to get his patient in a position where she will breathe comfortably and we adapt ourselves to him and the patient, rather than putting the patient in a position with the neck on a stretch and the trachea pressed upon. We have never had any trouble with anesthesia since we adopted this method.

In conclusion, I would summarize as follows:

1. Practically all thyroid enlargements are surgical, and if not actually toxic are potentially so.

2. Operate early or in toxic cases in the interval between attacks to obtain results.

3. Be sure to remove enough of the gland to prevent recurrence.

I wish to show one specimen of a large cystic goiter. This is from a woman 60 years old who had it for forty years. For ten years she had been unable to lie down naturally in bed but had to allow the goiter to hang over the edge of a pillow. It is interesting to know that each of her four daughters also has a goiter, one of whom we have operated on. We anticipated all sorts of trouble in the operation and even had Dr. Fox with us to perform tracheotomy in event of collapse of the trachea. The operation fortunately went through without any untoward incident, the only difference being that we took a little more time than usual.

NITROUS OXIDE ANALGESIA IN OBSTETRICS.*

JUNIOUS C. HOAG, M. D., F. A. C. S.

Member Chicago Institute Medicine
CHICAGO.

The medical profession is greatly indebted to the dentists for their development of the art of

anesthesia, particularly in so far as the use of nitrous oxide gas is concerned. Employed at first in the extraction of teeth, even as early as 1844, it has been extensively used for many years in teeth extraction and later still has been much employed to relieve pain in dental filling. In general surgery, its introduction progressed slowly because its uses and limitations were not well understood.

The latest employment of nitrous oxide has been in the hands of the obstetricians, who are even now just beginning to appreciate its merits. Dr. J. Clarence Webster has made use of it for a decade or so, finding a place for it in Cesarean section, forceps delivery, etc., as no doubt others also have done.

The first case of obstetrics where nitrous oxide was employed *ab initio* to produce prolonged *analgesia*, in contra distinction to *anesthesia for operation*, of which I have any knowledge, was that of the daughter of Hon. A. C. Clark, a manufacturer of dental apparatus and machines for administering nitrous oxide, who has been instrumental in extending the uses of gas in dentistry, surgery and finally obstetrics. I attended Mr. Clark's daughter when she was confined at her father's home, on July 13, 1913. Dr. Frank Lynch, formerly of Chicago and now of San Francisco, was called in by me to this case after the patient had been taking the gas for four or five hours and he reported this use of nitrous oxide, to him a novel one, in a paper read by him before the Chicago Medical Society, March 24, 1914.

As I have made no previous report of this or any other case of obstetrics conducted by me with the assistance of nitrous oxide, I wish to state at this time some other circumstances associated with this, my first case, as well as to allude briefly to my second case conducted under similar circumstances. Mr. Clark's family had been patients of mine for many years and I had had several obstetrical experiences in their home. Shortly before his daughter's confinement he asked me whether I would object to the administration of nitrous oxide to his daughter during her labor, the gas to be given by competent hands, he himself offering to be answerable for all results. I readily consented to this proposition and the gas was given by Mrs. Luther, who had been in Mr. Clark's employ, was experienced in its applica-

*Read before South Side Branch Chicago Medical Society, Dec. 30, 1917.

tion and who gave it well in this instance. We were all pleased with the results obtained and a few months later Mrs. Clark, the mother of the young lady referred to above was also attended by me, the gas again being administered by Mrs. Luther and with similar pleasing results. Not long after this Mr. Clark kindly placed at my suggestion, in St. Luke's Hospital, one of his gas machines, in order that I might make further use of it and bring it to the attention of others. For a long time I found difficulty in reconciling the hospital authorities to the use of this machine, which became known as my machine; but after it had been there for about two years it was purchased by the hospital, which had meanwhile bought several others of Mr. Clark's make.

I have made no careful tabulation of my cases conducted under gas analgesia, but I am making more extensive use of it now than previously and have formed pretty definite opinions concerning its value. Dr. Lynch, having been greatly impressed with the possibilities of nitrous oxide, soon interested his colleagues in the Presbyterian Hospital as well and was perhaps the first to set forth opinions based upon a sufficient number of cases to merit careful attention. Dr. Carl Davis has summed up his experiences in a meritorious brochure entitled "Painless Childbirth, Eutochia and Nitrous Oxide Oxygen Analgesia." Dr. N. S. Heaney and Dr. H. C. Allen of Brooklyn, have also published articles on this subject. There are various other publications which I might cite, but when all is said the truth remains that there is still comparatively little literature on this subject, though I am sure there will be plenty in the near future.

What particularly impresses me at this time is that obstetric analgesia is not yet well understood by obstetricians themselves; that its value is underrated; that it is seldom properly administered and that it never will be until it is placed in proper hands. In general surgery a few years ago the gas was given tentatively, gingerly and inadequately. At present it is freely given and with happiest results. If I personally had to endure prolonged and painful dentistry, I certainly should look to the gas for help.

I undertake to assert that already those enthusiasts who were first to publish their experiences with the analgesia of obstetrics will have by this time modified to some extent their

views regarding the best methods of its application and that in their future publications we shall find somewhat different advice from that first given by them.

My confession of faith in obstetric analgesia is about as follows:

I believe we have allowed our patients in the past to suffer unnecessarily and that in the future we can conduct labor cases *tuto, cite et jocunde*, as the old writers used to say, by the use of morphine (and chloral if we choose) early in labor and nitrous oxide with a little oxygen later on, employing in some cases a modicum of ether when we have operative work to do. I believe prolonged gas analgesia, say for six or eight hours, is perfectly safe for healthy patients, if properly managed. I believe gas does not prolong labor, but tends to shorten it and does not lead to physical depression and post partum hemorrhage. As a corollary to the last proposition, it may be stated that the prolonged use of chloroform and ether is distinctly dangerous. I disagree with those who say that the technique of gas analgesia is so simple that it readily may be entrusted to a nurse or a member of the patient's family. Such a procedure may not be dangerous, but is unproductive of good results. The proper technique can only be learned by very considerable experience, the best results being only obtainable by experts. I believe that obstetric analgesia is more difficult than surgical anaesthesia with gas. I believe that in hospital obstetrics gas should be given in most cases, but only by experts, just as now obtains in the operating room for general surgical cases. Most of all we should have experts when we care for obstetrical patients in their homes. I believe most women who have had gas administered to them have experienced some relief, but not what was their due. I believe that very little oxygen is required and that all along we have been using too much of it. I believe that in obstetric analgesia the re-breathing bag makes only for a small economy and is in some respects objectionable. I believe there is little or no danger of asphyxia to the child, but that if it is born asphyxiated, the condition can be relieved by giving oxygen through the mother to the child by the simple expedient of leaving the funis untied until oxygen has been administered freely to the parturient mother.

In concluding this part of my subject, I wish to point out that interns who make only occasional use of the gas, are not satisfactory anesthetists and that they are, through their unfamiliarity with the proper use of the gas, very wasteful of it being mainly responsible in hospitals for the complaints we hear regarding the cost, which is not great under proper control.

I was surprised to learn recently that in one of our best hospitals obstetric analgesia was considered largely a joke consisting, as I was informed, of the administration of a few whiffs of oxygen with slight admixture of nitrous oxide, begun shortly before the end of the second stage of labor, actual delivery being under ether or chloroform. I consider myself fortunate that in my first experience I had a good operator at the machine and I would advise all who mean to use this great boon, to start out right by witnessing a properly conducted case in order to possess a criterion with which to compare their subsequent experiences in gas analgesia.

As for the daemmerschlaf, I do not feel it necessary to say much. The American public was misguided by unofficial reports which emanated from the laity. The daemmerschlaf never had much vogue in Germany except in one small hospital. I confess that at one time I was prepared to take stock in it and in 1914 had as one of my objects in going abroad that of making a pilgrimage to the home of the daemmerschlaf, Freiburg, but the outbreak of the war stopped me on the edge of the English Channel. The plan of conducting labor under the influence of scopolamine and morphin was not without value, as it produced excellent results in some cases. Among its objections are these: It required unusual surroundings including quiet, exclusion of friends and shutting out of light; it involved unusual attentions on the part of physicians and nurses, in the way of regulation of doses and in the direction of preventing the patients from doing themselves injury, as they were apt to become hysterical or even maniacal; it appears to have prolonged labor and to have endangered the life of the child; it was largely an illogical procedure, in that it depended for its results not upon anesthesia or analgesia, but upon amnesia; complete amnesia having been produced, if the patient merely became for the time being a maniac, tearing her hair, shrieking, running about and

trying to jump out of the window, but at the finish gave birth to a healthy child and survived, the case was considered a brilliant success, provided the patient retained no recollection of what had transpired. When the obstetricians of Michael Reese Hospital made their last report, I felt that the book was sealed and have never since felt an impulse to break the seals.

4669 Lake Park Avenue.

CURVED NEEDLE INCISION IN VACCINATION, A NEW TECHNIQUE

WILSON RUFFIN ABBOTT, M. D.

CHICAGO.

I confess it is with some diffidence that I present for your consideration this evening a paper upon a subject that has been so thoroughly discussed, seemingly from every angle, by men of the highest eminence and professional attainments, and were it not that I believe that in the technique I have evolved I have something of real value to offer the general practitioner, I would not intrude upon your time even for the few moments I shall take to describe and set forth its merits.

It might be well before entering into the description of my method for us to consider for a moment the essential factors that enter into a successful inoculation. A moment's reflection and you will agree, I believe, that given a good vaccine, the essentials are, first, a correct technique, and second, the co-operation of the patient.

The former is dependant upon (a) the knowledge, as set forth by Ewing, that the vaccine virus has an exclusive preference for the epithelial cells, the albumin of which it requires for its propagation, and (b) the histological anatomy of the skin.

By way of refreshing our memory concerning some facts which may have been forgotten, I will, for our purpose, divide the skin into two principal layers. An outer avascular epithelial layer called the cornium and an inner vascular layer called the corium. The lymph circulates in the intercellular spaces of the epithelial layer, whereas, in the connective tissue layer, it circulates in true lymphatics. The epithelial layer must again be divided into an outermost or cornified layer, and an innermost or mucous layer.

We will not dwell upon the cornified layer

*Read before the North Shore Branch, Chicago Medical Society, November 6, 1917.

longer than to note these three highly important characteristics: 1. That it is extremely thin over the flexor surfaces, measuring not more than a fraction of a millimeter in thickness, and because of this extreme thinness one must exercise great care in incising by the usual methods if he would

trated. It is composed of several layers of which we shall consider one only, the outermost or papillary, this is so named from its papillae which project digital-like up into the under surface of the mucous layer. These papillae contain venules, arterioles and lymphatics. It is from this layer that the epidermis obtains its nourishment.

Next to a physician's wish for a successful inoculation is his hope that the patient will cooperate with him in the work to which he has set his hand. Of course with the adult and those children of mature age, one seldom experiences any difficulty. This cannot be said, though, in regard to the "Tiny Tots," and indeed, I hold a suspicion, that none of us are quite indifferent to having our skins punctured, drilled, or incised. It was, however, for these little ones that I set myself to devising some method that would be devoid of the embarrassments that sometimes beset us when we attempt to vaccinate by the generally accepted methods now in use.

By common consent four methods of vaccination have come to be accepted as giving satisfactory results; they are—scarification, either by drill or by puncture, or by incision—Jenner used



Fig. 1. Shows needle pressed firmly against skin—tilted slightly towards its eye and laterally.

avoid penetrating the papillary layer. 2. That it is impervious and therefore must be penetrated. 3. That it is insensitive, therefore its penetration should be devoid of sensation.

Now for a moment, let us direct our attention to the mucous layer which, as we have just noted, lies directly under the outermost cornified layer and just above the vascular connective tissue papillary layer. On microscopical examination of this mucous layer, we notice that it is made up of typical epithelial cells, that there is an appreciable clear space between these cells, and that each cell is joined to its neighbor by bridges that span the clear space. It is these clear spaces lying between the cells that form the lymph channels. It is here that the lymph circulates and furthermore—this is of greatest importance—it is here that the variolus vaccine should be deposited and *not* in the blood containing connective tissue papillary layer of the underlying corium.

As I have already pointed out, the tissue underlying the mucous layer is the corium. It is composed of connective tissue and assumes importance to us only because it must not be pene-



Fig. 2. Finishing the stroke. By rotating the wrist the needle has been swept from forceps to point.

the latter two. Cross-scarification and injection are mentioned only to be condemned.

Curved Needle Technique:

Having prepared the skin, the procedure is as follows: I lock firmly in the jaws of a good

needle holder a surgeon's curved, stout, cutting-needle—just as one does when he is about to take a stitch—(the needle that I seem to prefer is the one catalogued as No. 15). Next I grasp the arm firmly in the saddle of the hand and with the thumb and first two fingers, draw the skin *very* tense, a most important detail, neglect of which may cause failure: now I press the convex surface of the needle firmly against the skin using considerable pressure, and at the same time, tilt the needle slightly so that the cutting edge makes a trough-like indenture (see cut 1); then, by a rapid rotary movement of the wrist, I sweep the needle from forceps to point maintaining a firm, even pressure throughout (see cut 2).

If this maneuver has been correctly performed, there will be a fine hair-line incision just through the cornfield layer about 1/2-inch in length which, according to the British authorities, is the ideal. There is no pain. There is no blood. The child does not know that the dreaded part of the vaccination is over. I now take a fresh grip upon the skin and retract the margins of the incision. Usually by this time, serum has welled up into the trough, or if one has cut down above the crest of a papillae, a shell pink bottom may come into view.

My next step is to feed the vaccine, either directly from a capillary tube or indirectly by means of a freshly whittled stick or toothpick, into the wound.

The dressing is a strip of gauze held in position by adhesive plaster.

I have used this method for the past two years to the exclusion of all others, and I present it to you with a confidence born of conviction that it will not be found wanting. As a final word the merits I claim for it are:

1. It is highly efficient.
 2. It is painless.
 3. It is bloodless.
 4. It is rapid.
 5. It is economical.
 6. It awakens no fear in the mind of the child.
- 4700 Sheridan Road.

WAR EXPENSE AND LIBERTY BONDS

When Germany's new war loan is floated the empire's total indebtedness will be \$31,000,000,000, which means that each one of her 68,000,000 inhabitants, men and women and children, will be in debt \$456. Here

in America, with a population of 110,000,000, our total indebtedness, if only \$6,000,000,000, or a per capita indebtedness of only one-eighth that of the German citizen, a matter of \$57 each. We can run our Liberty bond floatations up to \$50,000,000,000 before each one of us owes as much as each German across the Rhine.

In other words, we can run this war at our present rate of expenditure for eight years before we are as bad off as the Germans are today. Don't be frightened at the money we are spending. We are not "breaking" ourselves. We are spending very little of our national wealth. Buy bonds. If this war lasts for eight years, Germany will be so badly "broke" it can never be put together again.

WHY YOU MUST BUY LIBERTY BONDS

War is a glutton that lives on lives and riches. There is no limit to the devouring greed of War. As long as there is an unconquered life, or an undevoured dollar, War is hungry.

When War attacks a Nation there is no choice—every able-bodied man knows that he must fight—now or later. Selective drafts may miss a man here and there for a few months, but if the War goes on a time comes when every man who can walk and carry a gun must go to the colors and fight for the very life of his country, his family, himself.

When War attacks a Nation there is no choice—every dollar is subject to the call of mobilization. Some of the dollars escape for a time and stay in their safe investment places earning profits for their owners. But if the war goes on long enough, every dollar must come out and enlist under the colors.

In time of War, when the very life and death of a Nation is being decided on bloody fields, money has no choice between courage and cowardice. Every dollar must fight or be classed as traitor and put in the outlaw list.

Remember these things. The Nation has a right to take absolutely every dollar of property in the United States for the life and death War against Tyranny, Autocracy, Slavery and Foreign Aggression and Vassalage. But the Nation does not intend to exercise that final and desperate right. No! The Government says: "The Nation is fighting for its life. Lend us your money. We will give you LIBERTY BONDS, secured by all the wealth and sovereign taxing power, bearing 4 1/4 per cent interest, and protected by a good sinking fund, with tax exemptions to make the loan better. Avoid the extreme necessity. INVEST IN ALL THE LIBERTY BONDS YOU CAN."

DO YOU KNOW THAT

The little house fly is a dangerous thing. The time to "swat 'em" is in the spring.

The ingestion of wood alcohol may produce blindness?

Human beings are the great agencies in the spread of human diseases?

No community can be really successful without safe waste disposal?

ILLINOIS MEDICAL JOURNAL

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APRIL, 1918

Editorial

Go back to the *simple* life, be contented with *simple* food, *simple* pleasures, *simple* clothes. Work hard, pray hard, play hard. Work, eat, recreate and sleep. Do it all courageously.

We have a victory to win.
 —HOOVER.

Have you purchased your Liberty Bonds. Now is the psychological moment.

THE ANNUAL MEETING

The time is drawing near for the annual meeting, and our members should all make a special effort to attend this year. The attendance in the nature of things will not be as large as that of last year—thanks to our Prussian enemy

—but those men not in the service should make more effort to attend because of this.

The officers of the Society have offered an attractive program, and the readers of papers deserve an audience of large size. Aside from this the doctor needs the time away from routine business.

Take a little vacation and visit the capital of your state. Springfield is an attractive place to go, is centrally located, will treat you royally, and reward you for your trouble. The officers of the Society hope to meet you all on May 21st.

PATRIOTIC DINNER GIVEN BY THE AUX PLAINES MEDICAL SOCIETY

The Aux Plaines Medical Society gave its annual ladies' night on the evening of April 4th, in the form of a patriotic dinner in honor of the thirty medical men, members of that Society, who have enlisted in the Medical Reserve Corps. About two hundred people attended.

After dinner the toastmaster, Dr. C. M. Pohl, introduced the speakers, among whom were Dr. E. B. Coolley, President of the Illinois State Medical Society; Dr. C. E. Humiston, President of the Chicago Medical Society; Capt. Harold Parke, Canadian Contingent; Rev. Wm. E. Barton; Judge Mancha Bruggemeyer and Dr. A. M. Corwin, who read one of his own poems, "Our Service Flag."

There was great enthusiasm manifested as portraits of members of the Medical Corps were shown. Miss Ethel Woodstock rendered several patriotic readings in a manner indicating clearly there was no slacker blood in her veins.

Drs. F. L. Glenn and H. J. Stewart were largely responsible for the affair, and owing to their enthusiastic effort it was highly successful.

AMERICAN MEDICAL ASSOCIATION

The profession of Illinois will have an excellent opportunity to attend the annual meeting of the American Medical Association to be held in Chicago, June 10-14, 1918. The members from Illinois should all attend this year. Chicago is expecting you, and will take care of all comers. The clinics and scientific meetings will be equal to a short post-graduate course. Make your arrangements to attend. Read the announcement on another page.

Illinois State Medical Society

PRELIMINARY PROGRAM.

SIXTY-EIGHTH ANNUAL MEETING,

Springfield, May 21, 22 and 23, 1918.

SECTIONS 1 AND 2.

Oration on Military Medicine and Surgery, "The Call of the Service"—Col. Henry I. Raymond, M. C., U. S. A., Chicago.

Oration on Surgery—Wm. O'Neill Sherman, Pittsburgh, Pa.

Imperforate Anus and Imperforate Rectum. (Lantern slides)—J. Rawson Pennington, Chicago. Discussion—Maxmilian Hubeny, Isaac A. Abt and Paul Gronnerud, Chicago.

Hypertrophic Pyloric Stenosis—C. Wallace Poorman, Oak Park. Discussion—J. W. Vanderlice, Oak Park and J. V. Fowler, Chicago.

A Plea for the Early Diagnosis and Treatment of Tuberculosis of the Kidney—Daniel N. Eisendrath, Chicago. Discussion—A. D. Bevan, Chicago, and F. Buckmaster, Effingham.

Surgical Treatment of Kidney Tuberculosis—Herman L. Kretschmer, Chicago. Discussion—A. D. Bevan and L. E. Schmidt, Chicago.

Operation for Fasciæ Repair in Cystocele—Paul Gronnerud, Chicago.

—————E. S. Murphy, Dixon.
Parotitis as a Sequela of Abdominal Operations—C. U. Collins, Peoria.

The Radical Removal of the Cancerous Breast by Cautery Heat—J. F. Percy, Galesburg.

Fractures of the Lower End of the Radius—S. M. Miller, Peoria.

Diagnosis and Treatment of Pyloric Stenosis, Demonstrated by Movie Film—H. M. Orr, La Salle.

Nephritis: Diagnosis, Treatment and Prognosis, Showing the Inadequacy of Our Physical and Pathological Interpretation of Clinical Symptoms—M. Stealy, Freeport.

Physical Fitness; Lessons from the Draft—E. Mammen, Bloomington.

Oration on Medicine—C. F. Hoover, Cleveland, Ohio.

President's Address—E. B. Coolley, Danville.

Trombosis of the Coronary Artery—James B. Herrick, Chicago.

Auricular Fibrillation—James C. Carr, Chicago.

Treatment of Mercurial Poisoning—Bernard Fantus, Chicago.

Present-day Indications for Splénectomy in Pernicious Anemia and Allied Conditions—A. F. Beifeld, Chicago.

Cardiovascular Syphilis, C. L. Mix, Chicago.

Etiology and Bedside Experience With Milk Sickness—A. J. Clay, Hoopeston.

Data Obtained from a Complete Study of 67 Cases of Gastroptosis—Albert R. Trapp, Springfield.

The Menopause from the Standpoint of Mental Disorders. (Clinical Reports. Lantern)—Frank P. Norbury, Jacksonville.

Some Points of Interest for the Internist in X-Ray Interpretation—Damon A. Brown, Peoria.

Treatment of Acute Articular Rheumatism—F. J. Mittan, Decatur.

A Study of the Physical Condition of Six Hundred Registrants in the Selective Draft of 1917—Charles B. Johnson, Champaign.

SECTION ON PUBLIC HEALTH AND HYGIENE.

The Practice of Preventive Medicine—William S. Sadler, Chicago.

Public Health Administration in Illinois Under the New Civil Administrative Code—C. St. Clair Drake, Springfield.

Tuberculosis, the Period of Profound Peril—Katherine B. Rich, Chicago.

Relation Between Public Health-Tuberculosis and Medical Education—Walter B. Metcalf, Chicago.

Mecting the Tuberculosis War Problem of Illinois—George T. Palmer, Springfield.

Warding Off Old Age—Charles J. Whalen, Chicago.

SECTION ON EYE, EAR, NOSE AND THROAT.

What Results May We Expect from Tonsillectomy and Adenectomy—Charles F. Burkhardt, Captain M. R. C., U. S. A., Effingham. Discussion—Arthur M. Corwin, Chicago.

Ophthalmic Examination of Aviators—Charles P. Small, First Lieutenant, M. R. C., U. S. A., Chicago. Discussion—Francis Lanc, Captain, M. R. C., U. S. A., Chicago.

Some Eye Injuries That Can Be Prevented—Willis O. Nance, Chicago. Discussion—William L. Noble, Chicago.

The Instruction in Plastic Surgery About the Head and Neck (Stereopticon)—Joseph C. Beck, Chicago. Discussion—Ira Frank, Chicago.

The Etiology and Diagnosis of Sinus Disease

- (Stereopticon)—Richard J. Tivnen, Chicago.
 Discussion—John A. Cavanaugh, Chicago.
- The Treatment of Nasal and Accessory Sinus Disorders—Otto J. Stein, Chicago. Discussion—Frank Brawley, Chicago.
- Personal Experience With the Operation for Senile Cataract—Frank Allport, Chicago. Discussion—J. Brown Loring, Chicago.
- Septal Deformities, Modification of Freer's Operation—B. F. Andrews, Chicago. Discussion—Otto T. Freer, Chicago.
- Arteriovenous Aneurysm of the Orbit—George W. Boot, Chicago. Discussion—Oliver Tydings, Chicago.
- Focal Infections in Relation to Diseases of the Eye—Thomas Faith, Chicago. Discussion—Clarence Loeb, Chicago.
- The Management of Tonsillar and Adenoid Hemorrhage—Henry R. Boettcher, Chicago. Discussion—Joseph Z. Bergeron, Chicago.
- Traumatic Ptosis, Modified Motais' Operation—H. W. Woodruff, Joliet. Discussion—George W. Mahoney, Chicago.
- On the Value of Localization of Magnetizable Foreign Bodies in the Eye—John R. Hoffman, Wilmette. Discussion—Nils Remmen, Chicago.
- Treatment of Otosclerosis from An Etiological and Pathological Standpoint—Harry L. Pollock, Chicago. Discussion—J. Holinger, Chicago.
- Middle Ear Infections—C. E. Price, Robinson. Discussion—A. H. Andrews, Chicago.
- Status Lymphaticus—Edward F. Garraghan, Chicago. Discussion—T. J. H. Gorrell, Chicago Heights.
- Conservation Treatment of Eye Injuries—H. H. Roth, Murphysboro. Discussion—C. H. Francis, Chicago.
- A Further Report on Ophthalmia Eczematosa—Michael Goldenburg, Chicago. Discussion—H. H. Brown, Chicago.
- Laryngeal Tuberculosis—J. Niess, Carmi. Discussion—George A. Torrison, Chicago.
- A Case of Multiple Sclerosis With Eye Findings—E. R. Crossley, Chicago. Discussion—Charles L. Mix, Chicago. (By invitation.)

EYE, EAR, NOSE AND THROAT SECTION

Clinic—Eye, Ear, Nose and Throat Section:
 On Tuesday morning, May 21st, as has been

the custom, this section will have a clinic at St. John's Hospital beginning promptly at nine o'clock. In the forenoon, ear, nose and throat cases will be demonstrated and operated upon, and in the afternoon the eye cases will be treated and operated upon. These clinics will be conducted by some of the ablest clinicians in the state and have always proven worthy of a large attendance. This year will be no exception. Any physician in the state who is a member of the state society, and who wishes to present any cases, is cordially invited to make arrangements with Dr. John F. H. Deal, Leland Office building, Springfield, Ill., who is chairman of arrangements for the meeting of the Eye, Ear, Nose and Throat Section, in that city. Luncheon will be served at the hospital from twelve to one for all members.

BANQUET. Tuesday evening, at 6:30 o'clock, there will be a banquet at the Leland Hotel. Tickets will be \$2.50 per plate. There will be music, oratory and general good fellowship in abundance and an excellent dinner, such as only the Leland can provide. It is one of the great privileges of the year to be present at these splendid affairs and enjoy the fellowship of your colleagues. Please send your check for a reservation to Dr. John F. H. Deal, Leland Office Building, Springfield, Ill., who is chairman of arrangements for the banquet.

PROGRAM. Wednesday morning at nine o'clock, May 22nd, the Scientific Program of the Eye, Ear, Nose and Throat Section will open at the Leland Hotel, and continue until twelve o'clock, when an intermission will occur for dinner, until one-thirty o'clock, the session will then resume and continue until five o'clock. The program which has been prepared with the greatest care will present the most interesting and important phases of progress in our specialties. You are urgently requested to be present and participate in this meeting which has proven an inspiration to all and amply repaid those who have made the effort to attend heretofore. The presentation of papers will be limited to ten minutes, and the opening discussions to three minutes.

DR. J. SHELDON CLARK, Chairman.
 Freeport, Ill.

DR. WESLEY H. PECK, Secretary.
 31 N. State St., Chicago.

NORTHWESTERN UNIVERSITY ALUMNI

In view of the uncertainty as to attendance of Northwestern University graduates at the coming State Meeting in May, it is urgently requested that any who contemplate attending, make definite arrangements to be present at the Annual Alumni Banquet, which will be held May 23, at 12:15 o'clock noon, at the St. Nicholas Hotel. The very best price obtainable for the luncheon or banquet this year is one dollar and a half and the Hotel requires advance information regarding the number who will be present. For this reason if you are desirous of attending, kindly forward name and remittance to the undersigned at an early date advising whether you wish ticket returned to you or held for you to be delivered upon your request Tuesday, May 21, when you register.

Signed DR. T. J. KINNEAR,
510 Ridgely Bldg.,
Springfield, Ill.

DUST AND AIR BORNE DISEASES

This is the time of year when perhaps the air-borne diseases are most prevalent. We probably will have to except those wide-spread epidemics of influenza, which more often come during the winter. City dwellers and residents of villages are just now undergoing an unusual epidemic of throat and bronchial infections. That these infections are due directly to the unusual amount of street dust in the air, no one will deny. The accumulation of dirt, dust and filth, composed largely of dried sputa and other animal excreta of months is now on the streets and alleys. A few days' sunshine and strong wind and much of it is in the air. In a day or two numbers of cases of infected eyes and throats, cases of bronchitis and pneumonia begin to appear, and always there are more or less fatal results from these epidemics of infections.

That this happens is not in itself strange, but the strange thing is that nothing is done to prevent the condition being repeated time and time again. Health Departments have done almost nothing except to remark about it, and perhaps try to impose a few more highly colored cards on doors indicating quarantine.

In Chicago, where owing to its large size, there

is so much dust, some decided effort should be made to eliminate this menace to the health of the people. The archaic method of street cleaning is so objectionable that one can but wonder why it has so long been tolerated. Much of the street cleaning done at the present time does little more than dry the dust so that it blows more readily.

A number of years ago Chicago was given a drainage canal, which increased the efficiency of the sewerage system by taking the sewage away from the drinking water. The result is that typhoid fever and acute bowel infections, once so prevalent here, have been practically eliminated. If the same effort were made to do away with the street dust, the result probably would be such as to compare favorably with the results of better drainage. With Chicago's water supply and drainage system there should be no difficulty in washing the streets.

Removing the causes will prevent diseases. Removing the dust from the air we breathe would probably result in decreasing very materially our throat and bronchial infections. If in addition to this the air in our street cars was safe for human breathing, we would have a wonderful change in statistics of respiratory diseases and also in our mortality statistics.

YOUR COUNTRY CALLS YOU.

Colonel Robert E. Noble, M. C., U. S. Army, the Chief of the Personnel Division of the Surgeon-General's office, has done wonderful work in this war by organizing a body of 15,000 Medical Reserve Corps officers and bringing them to a high degree of efficiency. Colonel Noble, however, says: "We need medical officers, more medical officers, and yet more. We not only must provide medical officers with all tactical units, but must supply ambulance service, field and evacuation hospitals, hospital trains, base hospitals, convalescent, general and now reconstruction hospitals." To date only one physician in ten has been commissioned. We need to double that percentage.

Now, Doctor, ask yourself this question: "Is it not my duty to serve my country in this hour of need to the best of my ability?" There can be but one reply. *Answer the call!*

The undersigned will be glad to receive your

application and give you any further information.

ED. J. DOERING, Major, M. R. C.
President, Board of Medical Examiners,
U. S. Army,
81 East Madison St., Chicago.

CLINICS.

It is announced that in the future the members of the Chicago Laryngeological and Otological Society will give clinics at various Chicago hospitals on the third Monday and Tuesday of each month, preceding the regular monthly meeting of the Society on the third Tuesday evening. These clinics will be open to anyone who wishes to attend and information concerning them can be obtained by writing or telephoning.

Dr. EDWARD P. NORCROSS,
304 Michigan Boul. Secretary.

GRIT YOUR TEETH AND BUY A BOND.

Casualty lists are being printed in the papers and occasionally we see pictures of our wounded at the hospitals in France. War is being brought home to us in the Middle West. We know now that Americans are fighting over there and this third Liberty Loan should find us more willing than ever before, and more eager, to contribute our share toward defeating the kaiser.

The boys are working the guns. Here we must work the farms and the factories and furnish the money. Buying Liberty bonds is now as much our duty as it is their duty to grit their teeth and beat the Hun to it with the bayonet thrust when the charge comes.

THEODORE B. SACHS TUBERCULOSIS STUDY CLASS

FREE COURSE OF LECTURES

TUBERCULOSIS IN RELATION TO MODERN PROBLEMS
Under Auspices of

THE CHICAGO TUBERCULOSIS INSTITUTE

8 South Dearborn Street—Telephone Central 8316
Given at the

CITY CLUB OF CHICAGO, 315 PLYMOUTH CT.
Thursdays at 6:30 P. M.

Dr. Max Biesenthal, Chairman

March 21—"The Press and Tuberculosis," Dr. W. A. Evans.

March 28—"The Red Cross and Tuberculosis," C. C. Stillman.

April 4—"United Charities and Tuberculosis," Eugene T. Lies.

April 11—"The War and Tuberculosis," Dr. Geo. T. Palmer

April 18—"Occupation for Disabled Soldiers With Special Reference to Tuberculosis," John E. Ransom.

Following the speaker, there will be a general discussion on the subject presented.

All persons interested are cordially invited to attend.

AMERICAN MEDICAL ASSOCIATION NEWS.

THE CHICAGO SESSION.

COMMITTEE ON ARRANGEMENTS.

The local committee on arrangements for the annual session of 1918, to be held in Chicago, June 10-14, is actively engaged in perfecting plans for the comfort and entertainment of the fellows of the association and their guests.

All correspondence with the local committee on arrangements or with any of its subcommittees should be addressed to 25 East Washington St., Chicago.

CLINICS.

The chairman of the subcommittee on clinics, Dr. Charles F. Humiston, announces that there will be a series of clinics for the Fellows of the Association on Thursday, Friday and Saturday, June 6, 7 and 8, and on Monday and Tuesday, June 10 and 11.

ALUMNI AND SECTION DINNERS.

Alumni and section dinners will be held on Wednesday evening from 6 to 8 o'clock so as not to conflict with other events which are being planned. The chairman of the subcommittee on alumni and section entertainment, Dr. J. H. Stowell, announces that his committee is co-operating with officers of alumni associations in arranging for reunions. The committee desires, also, to assist the officers of those sections which desire to arrange for section dinners.

HOTEL HEADQUARTERS FOR THE CHICAGO SESSION

The following hotels have been tentatively designated as general and section headquarters for the Chicago session, June 10 to 14:

General headquarters: Hotel Sherman—North Clark and West Randolph.

Practice of Medicine—Hotel Morrison, 83 W. Madison.

Surgery, General and Abdominal—Auditorium Hotel, 430 South Michigan.

Obstetrics, Gynecology and Abdominal Surgery—Congress Hotel, South Michigan and Congress.

Ophthalmology—Hotel La Salle, La Salle and West Madison.

Laryngology, Otology and Rhinology—Hotel La Salle, La Salle and West Madison.

Diseases of Children—Congress Hotel, South Michigan and Congress.

Pharmacology and Therapeutics—Auditorium Hotel, 430 South Michigan.

Pathology and Physiology—Auditorium Hotel, 430 South Michigan.

Stomatology—Congress Hotel, South Michigan and Congress.

Nervous and Mental Diseases—Blackstone Hotel, South Michigan and East Seventh.

Dermatology—Blackstone Hotel, South Michigan and East Seventh.

Preventive Medicine and Public Health—Auditorium Hotel, 430 South Michigan.

Genito-Urinary Diseases—Auditorium Hotel, 430 South Michigan.

Orthopedic Surgery—Congress Hotel, South Michigan and Congress.

Gastro-Enterology and Proctology—Auditorium Hotel, 430 South Michigan.

Scientific Exhibit, Registration Bureau, Commercial Exhibit, Information Bureau and Branch Postoffice—Hotel Sherman, North Clark and West Randolph.

Correspondence

UNITED STATES FOOD ADMINISTRATION.

WASHINGTON, D. C.

March 19, 1918.

TO THE EDITOR: As you are aware there is urgent need for the country to use with the utmost care, our stocks of sugar, alcohol and glycerin. It has come to our attention through the work of Professor Wimmer of New York and Mr. F. A. Upsher Smith of St. Paul, Minn., that it is possible to reduce largely the amount of these materials used in medicines by the adoption of infusions, decoctions and solid forms of medication, such as capsules, in place of elixirs, syrups, fluid extracts and tinctures.

As the choice of medicine rests with the physician, we feel that the extent to which this conservation program is successful rests largely with the physician, and we urge upon physicians throughout the country the desirability of prescribing extemporaneously wherever possible.

It is really desirable that the editors of phar-

maceutical and medical journals, deans and professors of colleges, and secretaries of state, county and city associations should see that the matter is fully discussed at meetings of physicians and druggists and should do all within their power to assist this conservation movement, which cannot fail to be of material assistance to the country since "Food Will Win the War."

May we depend upon you for your active cooperation in this matter?

Yours very truly,

UNITED STATES FOOD ADMINISTRATION,
CHARLES W. MERRILL,
Division of Chemicals,
Sisal and Jute.

WAR DEPARTMENT

OFFICE OF THE SURGEON GENERAL
WASHINGTON.

MEMORANDUM to Editors of Medical Publications:

March 27, 1918.

To the Editor: Attention is directed to the inclosed memorandum issued by this office to medical officers of the Army.

The large number of medical officers recently joining the medical department direct from civil life, and unfamiliar with the army regulations governing the publication of scientific papers, has resulted in a number of papers being published in various journals without authority from this office.

Editors of medical publications are requested to co-operate with this office in impressing upon medical officers the necessity for compliance with the inclosed memorandum.

It is requested that papers received from medical officers in the service which do not show that they have been referred to this office, and authority for publication granted by the Surgeon General, be forwarded direct to this office in order to obtain this authority.

In authorizing the publication of a paper this office does not necessarily signify its accordance with views or opinions expressed therein. It is, therefore, requested that editors refrain from appending any note or legend expressing the formal authorization of this office.

By direction of the Surgeon General.

(Signed) C. L. FURBUSH,
Lieutenant Colonel,
Medical Corps, N. A.

MEMORANDUM TO DIVISION SURGEONS:

1. Attention of medical officers is directed to the provisions of paragraph 423, M. M. D.—“Medical Officers will not publish professional papers requiring reference to official records or to experience gained in the discharge of their duties without the previous authority of the Surgeon General.”

2. Numerous scientific papers written by officers of the medical department have recently appeared in the medical press without specific authority from this office. This practice will be discontinued, and the above regulation will be strictly complied with.

3. Officers desiring publication of professional papers will submit two copies to the Surgeon General with request for permission to publish same. Upon approval, a copy will be forwarded to the journal designated by the officer for publication.

By direction of the Surgeon General:

C. L. FURBUSH,
Lieutenant Colonel,
Medical Corps, N. A.

TREASURY DEPARTMENT

UNITED STATES PUBLIC HEALTH SERVICE

Washington, April 5, 1918.

To the Editor: In view of the reports in current medical literature of untoward results from the use of arsphenamine and neoarsphenamine, I have to request that you give publicity to the statement that it is requested that samples of any lots of these arsenicals which have shown undue toxicity be forwarded to the Hygienic Laboratory for examination.

In sending these samples it should be ascertained that the lot number is the same as that of the ampoules used on patients. The samples sent should, if possible, be accompanied by a brief age of the patient, the dose and dilution of the drug given, the symptoms and results; that is, whether fatal or not. Respectfully,

G. W. McCoy,
Director.

Public Health
THE POLIOMYELITIS OUTLOOK.

Prognosis in epidemiology ought to be cultivated as it is in the individual case of sickness.

The summer of 1917 found us mentally unprepared for the seemingly sudden onslaught of poliomyelitis. Indeed, it had been rather confidently announced by health authorities that we probably would not have an outbreak; but by December 31 more cases had been reported than during the much published epidemic of 1916. The death rate for the state was 27 per cent. instead of less than 13 per cent. as in 1916.

The following considerations are thought worth offering in the way of a basis for epidemic prognosis as to poliomyelitis.

From January 1 to April 1, 1916, there had been 26 cases reported.

From the same period of 1917 the figures were as follows: Cases, 24; deaths, 4; death rate, 16.6 per cent.

The present year the figures are: Cases, 41; deaths, 9; death rate, 22 per cent.

No doubt some allowance must be made for better reporting since July 1, 1916, but not so much as would seem, as this disease has appeared in grouped cases to so great an extent in late years that its presence over the portions of the state where reports of communicable diseases are on a fairly satisfactory basis has been quite well reported. Furthermore, in a rather wide survey of the state not many unreported cases are found dating to the early part of 1916.

The figures quoted above are believed to be accurate—sufficiently so to reveal that we have a virulent type of the disease endemic in the state as evidenced by its continued and wide prevalence, its extra-seasonal outbreaks and its high death rate. To these factors may be added its probably increasing tendency to leap out of the accustomed decade periods of its incidence, i. e., the tendency to not only a lessened incidence among children under ten years of age, but also an increased incidence among persons above this age.

It is scarcely fanciful to call attention also to a seemingly cyclical feature in poliomyelitis epidemiology.

As judged by the epidemic in the eastern states there seems to be a period of years when sporadic cases occur. Then a series of years begins when epidemic proportions seem to be reached. Ending this period a climax is apparently reached in which the case rate and probably all other epidemic features are very high, after which the disease drops back to the sporadic type.

It is a conjecture of considerable probability that Illinois is now somewhere in the first one-half of the cyclical period of this epidemic.

It certainly is within the bounds of wisdom to orient ourselves in relation to acute poliomyelitis. It should not be looked upon as alarmist propaganda to call attention to the consideration herein contained. We are quite as much in danger of the ostrich habit as we are of being stampeded. We may be dealing with a condition and not a theory.

In other words, poliomyelitis of severe type is among us and it is not unreasonable to expect its continuance and increase during its favored seasons for some years to come.

"COUNTER PRESCRIBING" CONSTRUED AS PRACTICE OF MEDICINE.

In the war-time program for the prevention and suppression of venereal diseases in which the federal and state governments are now taking an active part in Illinois, considerable difficulty has been encountered through the common practice of counter prescribing on the part of a large number of pharmacists. The rules and regulations for the control of venereal disease recently promulgated by the State Department of Public Health require that the druggist as well as the physician shall report all cases of venereal disease coming to his notice or attention, but it has been recognized by the better class of pharmacists that the purposes of the federal and state governments will be much more thoroughly attained if counter-prescribing for venereal disease is abolished altogether, and as a result a considerable percentage of the pharmaceutical profession have discontinued this practice. The tremendous importance of venereal disease during war time and the fact that all druggists have not adopted a policy in harmony with the state and federal program has rendered it advisable to secure more definite legal opinion in regard to counter-prescribing for venereal diseases to be used has a basis of legal action in case such steps may be deemed necessary.

At the instance of both federal and state authorities, Attorney-General Edward J. Brundage has recently submitted an opinion to Dr. C. St. Clair Drake, director of the State Department of Public Health, which is exceedingly interesting and important in character.

While taking cognizance of the fact that the

act to regulate the practice of pharmacy authorizes the druggist "to compound, recommend, dispense, or sell drugs, medicine, etc.," the Attorney-General does not construe this right of the druggist to "recommend" to authorize him to compound drugs or medicine at his own discretion for the cure or treatment of a specific disease and he further holds that such an act constitutes the practice of medicine.

"To construe the word 'recommend' as used in the statute to mean that a druggist may, under the conditions set forth, prescribe medicine for the cure of a disease," says the opinion, "will defeat the object and purpose of the statutes.

"Such a holding would have to be based upon the assumption that a druggist possesses the same skill and knowledge as a physician to determine a remedy and prescribe its application."

Further the opinion says, "Reading the entire act together and having in mind the objects and purpose of the act, it seems clear that if a so-called recommendation of a druggist, who is an unlicensed physician, has all the necessary elements which constitute the practice of medicine, as that term is defined by our courts, then such druggist must be regarded as practicing medicine within the meaning of the statute and he may be punished pursuant to the provisions of paragraph 171, chapter 91."

The Attorney-General cites a large number of decisions of the Illinois Supreme Court with the following conclusion:

"The rule deducible from these decisions seems to be that if any person who is an unlicensed physician, even though he may be a druggist, determines the proper remedy for a disease and gives or prescribes a medicine therefor, other than a patent or proprietary preparation in original and unbroken packages, he will be regarded as practicing medicine within the meaning of the statute of this state." The application of this opinion will go far, not only toward the control of venereal diseases, but toward the abatement of the pernicious practice of counter-prescribing which has been a bone of contention in Illinois for many years.

INCREASING REGISTRATION OF VITAL STATISTICS.

While the law for the registration of births and deaths, enacted by the forty-ninth general assembly,

affords the machinery for placing Illinois in the registration area as recognized by the United States Bureau of the Census, that recognition has not yet been accorded to the state and will not until it has demonstrated to the federal government that the reports of vital statistics are relatively complete. The machinery for securing reports of births and deaths has been enormous since it has been necessary to establish approximately 2,000 local registrars equipped with all materials for the proper performance of their functions. All of these agencies are now in operation and the Division of Vital Statistics of the State Department of Health is bending every effort toward obtaining "100 per cent. registration of births and deaths in Illinois."

In some of the more remote counties this will be exceedingly difficult of obtainment, so far as deaths are concerned, on account of the fact that undertakers are not ordinarily employed, the law imposing a large part of the responsibility for registration upon the undertaker.

More complete reports of births will be brought about through the co-operation of the Child Welfare Department of the Woman's Committee of the Council of National Defense, which will utilize the thousands of women of the various localities registered for war service in bringing about complete birth registration in their communities.

The State Department of Health is looking to physicians and undertakers throughout the state to give united support in an effort to rescue Illinois from the unenviable position of a non-registration state which it has held in times past.

DEVELOPMENT OF CHILD WELFARE WORK.

The State Department of Public Health has undertaken an interesting and important war-time program in the field of child welfare, utilizing as co-operating agencies the services of the Child Welfare Department of the Women's Council of National Defense and the Illinois Tuberculosis Association.

The program which is now being placed in operation contemplates complete registration of births and deaths, the employment of a community nurse in each county in the state, the establishment of open-air schools and open-window rooms, the employment of school nurses and medical school inspectors, the development of child welfare activities in every community with infant welfare stations and children's clinics, and the preparation of portable exhibits on child welfare to be sent to all parts of the state.

The program also includes the support of the clinics for the after care of victims of poliomyelitis which have been successfully conducted by the State Department of Public Health for sometime past and the local representatives of the Woman's Council of National Defense are now interesting themselves in the collection of "brace funds" to supply such appliances as may be required by the victims of infantile paralysis.

Notwithstanding the co-operation of very many physicians, it still seems desirable to announce to the

medical profession of the state the successful operation of these clinics. Extensive, as well as unsought, newspaper notice of the work has been given, which has been gratifying to those in charge.

As pieces of social machinery the organizations for the after care of infantile paralysis victims are interesting. They are informal, but effective. The state furnished a clinician and a nurse. At Springfield, St. John's Hospital furnishes the hospital facilities and the untiring services of the Sisters. The Springfield Tuberculosis Association furnishes a field nurse for most efficient follow-up work in muscle re-education. The county supervisors of Sangamon are allowing \$100 per month for the brace fund for patients within the county.

In Cook county the Division of Rural Nursing of the Social Service Department is giving whole-hearted service in support of the three clinics at Chicago Heights, Blue Island and Oak Park. The clinical centers in Cook county are St. James Hospital; Chicago Heights, St. Frances Hospital; Blue Island and West Side Health Center, Oak Park.

At Joliet the Silver Cross Hospital entertains the clinic. Ryburn Memorial Hospital, the Community Nursing Association and the Women's Committee of the Council of Defense are co-operating at Ottawa. At Rock Island the West End Settlement, and at Moline the King's Daughters are furthering every interest of the work. At each clinic nurses in attendance receive instruction in muscle training and the parents are being taught to care for their children.

GENERAL AND SPECIAL HEALTH SURVEYS.

With the sanitary survey of the City of Freeport completed, and the report of the more extensive survey of the sanitary zone about Camp Grant and the City of Rockford in process of final revision, the Department of Surveys and Rural Hygiene of the State Department of Health is now engaged in sanitary and health features of the survey of Waukegan and North Chicago. In addition to the interest which attaches to this survey on account of the industrial activities of these two communities, the investigations will be important on account of the close proximity of the Great Lakes Training Station which now houses approximately 28,000 young men and whose capacity is rapidly being raised to 50,000.

The Division of Surveys and Rural Hygiene is also assisting in the tuberculosis survey of Champaign county, which is being carried out by the county tuberculosis sanitarium board and is preparing to take part in a tuberculosis survey of Morgan county.

HEALTH NOTES.

On account of a shortage in the forces of the central diagnostic laboratory at Springfield, due to the number of men who have enlisted in military service, Wassermann tests will be made only on Saturday and Sunday for the time being.

Through a change in the rules and regulations of

the State Department of Health, the period of quarantine for German measles has been reduced from fourteen to eight days.

Society Proceedings

COOK COUNTY

*Chicago Medical Society, Regular Meeting,
March 6, 1918*

MEDICAL PROBLEMS CONNECTED WITH THE DRAFT

1. From the Standpoint of the Ophthalmologist, Major Wm. H. Wilder, Camp Taylor, Ky.
2. From the Standpoint of the Appeal Board, M. L. Harris.
3. From the Standpoint of the Internist, Major Ernest E. Irons, Base Hospital, Camp Custer, Mich.
4. The Soldier's Foot, Major John Ridlon.
5. Nervous and Mental Conditions in an Army Camp, Ralph C. Hamill.

Regular Meeting, March 13, 1918

1. Posture in the Treatment of Lobar Pneumonia, Ed. L. Heintz.

Discussion, Chas. Davison and Frederick Tice.

BIOLOGY OF TWINS

2. (A) Identical Twins, Prof. H. H. Newman, University of Chicago.

(B) Sex Relations of Non-Identical Twins, Prof. Frank R. Lillie, University of Chicago.

Regular Meeting, March 20, 1918

JOINT MEETING OF THE CHICAGO UROLOGICAL SOCIETY AND THE CHICAGO MEDICAL SOCIETY

SYMPOSIUM ON KIDNEY SURGERY

1. Indications in Various Phases of Renal Surgery, Gustav Kolischer.
2. Tuberculosis of the Kidney, D. N. Eisendrath.
3. Surgery of Renal Lithiasis, with lantern slides, Herman L. Kretschmer.

Regular Meeting, March 27, 1918

1. Cancer of the Breast and Its Treatment with Observations on the Use of X-Ray, Ed. H. Ochsner.
2. Traumatic Lesion of the Roots of the Lumbosacral Plexus with Report of a Case. Illustrated by Charts, Sigmund Krumholz.
3. The Major Plastics of the Abdominal Wall, Weller Van Hook.

Regular Meeting, April 3, 1918

1. Pathology and Treatment of Seminal Vesiculitis and Acute Epididymitis, Charles M. McKenna.
2. Some Special Features in Connection with Fractures of the Os Calcis, Frank E. Pierce.
3. The Surgery of Winged Scapula, Benj. F. Davis.

GREENE COUNTY

The regular meeting of the Greene County Medical Society was held in Carrollton, Illinois, Friday, February 8, 1918.

On arrival at Carrollton the physicians of the society were served with an excellent dinner.

The society was called to order by President Hensler at 2:30 p. m. The minutes of the annual meeting were read and approved.

A report was given by Dr. Edwards, representing the committee for the elimination of one telephone system, in which he briefly stated that as yet the committee had accomplished nothing definite, but that they were still working toward the elimination of one system.

A discussion followed regarding the making of life insurance examinations for any fee less than the usual \$5 fee. It was the consensus of opinion that no member of this society should examine for \$3 per examination or take the examinership for the Prudential or any other Life Insurance Company unless said company was willing to pay the same fee as is customary for such old line examinations, regardless of the amount of the policy, and further, that any physicians making such examinations for a fee of \$3, or any amount less than the ordinary fee, were committing a breach of Medical Ethics and breaking faith with their fellow practitioners.

The following papers were read and discussed:

Pertussis, Dr. O. L. Edwards, Roodhouse.

Septic Wounds, with special reference to Treatment, Dr. L. J. Hensler, Carrollton.

The censors reported Roodhouse as the next place of meeting, April 12, 1918.

Twelve members and one visitor were present.

L. O. FRECH, Secretary.

UNION COUNTY

Meeting was called to order by President L. D. Keith, at Anna, Ill., March 28, with eleven members and eleven visitors present.

Dr. C. H. Diehl was elected to membership by transfer from Franklin County Society.

The following program was then given. The subject being, "Pneumonia." Etiology, paper by L. J. May, read by E. V. Hale; Pathology, by E. W. Zook; Symptomatology, D. W. Gear; Diagnosis, A. J. Lyerly; Prognosis, S. C. Martin; Treatment, T. L. Granay. Discussion led by W. E. Lingle.

All the papers were good and brought out quite a lengthy discussion by nearly all the profession present.

E. V. HALE, M. D., Secretary.

CHICAGO OPHTHALMOLOGICAL SOCIETY MEETING OF NOV. 19, 1917—Continued OCULAR MANIFESTATIONS

OCULAR MANIFESTATIONS

A study of the limited number of cases coming under the author's observation has indicated that the majority are accommodative disturbances, while some appear to be truly refractive.

But whether accommodative or refractive, the ciliary muscle acts and reacts as the result of some stimulus applied outside the eye itself. In the normal individual this stimulus originates in

the brain, and manifests itself in perfect vision through a crystalline lens of proper curvature, made so by the action of the ciliary muscle. In the nonaccommodative eye, on the other hand, this stimulus must arise outside the domain of the will, resulting in imperfect vision through a lens of improper curvature, made so by the action of the ciliary muscle.

Muscular movements may be classified as follows: voluntary, involuntary and reflex.

Voluntary muscular action is under the control of the will. Involuntary muscular action is under the control of the sympathetic nervous system. Reflex muscular action is brought about by the impulse produced by a stimulus applied to a sensory periphery, traveling through a ganglion, where it is switched onto the motor nerve supplying the muscle. The course over which this reflex impulse travels is called a reflex arc.

Without going into a minute review of the trigeminous nerve, its roots, its three main branches and its numerous endings, the author pointed out the components of the reflex nerve tract reaching the ciliary muscle.

Following back the numerous motor nerve filaments that supply the muscle, the ciliary ganglion is reached, situated behind the eye and within the orbit. This is made up of three roots, each carrying its own kind of nerve impulse; a motor from the motor oculi, a sympathetic from the cavernous plexus, and a sensory from the ophthalmic division of the trigeminous, together with a root communication with the sphenopalatine ganglion, capable of carrying reflex impulses.

The motor oculi supplies all the extrinsic muscles of the eye except the superior oblique and the external rectus, while the ciliary ganglion supplies the intrinsic, namely, the ciliary and the orbicularis iris.

The sphenopalatine ganglion is made up of three roots; a motor from the facial, which unites with a sympathetic root from the carotid plexus to form the vidian, and a sensory from the maxillary division of the trigeminous. This ganglion is also connected directly with the optic ganglion by a root communication, besides the communication with ciliary ganglion, referred to.

The sphenopalatine ganglion receives sensation from all parts of the interior of the nose except a small area on the lateral and septal walls anteriorly.

A line of nerve communication, then, is established between the nasal cavities and the ciliary muscle, forming a reflex arc, having as its components the sensory filaments in the nose, the sphenopalatine ganglion, the interganglionic line from the sphenopalatine to the ciliary, the ciliary ganglion, and lastly the motor nerve filaments to the muscle.

Having this reflex arc, is it not fair to assume that reflex impulses may reach the intraocular muscles and influence them in the disturbance of

vision? May it not be possible, or even probable, that irregular contraction of the ciliary muscle may result in distortion of the lens, and in the production of lenticular astigmatism? In fact, may not any erratic action on the part of the ciliary muscle be attributed to some irritating cause outside the eye? If such be the case, it behooves us as ophthalmologists to institute a thorough search for the source of irritation wherever it may be.

The question of peripheral localization has not as yet received the attention that it deserves; but if the reflex hypothesis is correct, the source of irritation ought to be found in some area whose sensory filaments center in some ganglion, where some of these filaments arborize around motor cells whose axis cylinders reach the disturbed muscle. As no sensory nerve filaments from the eye pass into the ciliary ganglion to make up a reflex arc, the irritating cause would hardly be looked for in the eye.

The ganglion next in course is the sphenopalatine, whose sensory distribution is the mucosa of the turbinates and meatuses on the lateral walls of the nasal cavities, and that of a corresponding area on the septum. It goes without saying that these regions should be examined with minute care for any irregularity that may be the cause of the disturbance.

In those cases coming under the author's observation, these intranasal areas have been the seat of by far the greater number of irritative conditions producing these varying ocular symptoms, and when found and properly removed, glasses then adjusted to the eye conditions present remain indefinitely satisfactory. The author is convinced, therefore, that these eye manifestations should be regarded as symptoms pointing toward the underlying cause.

DISCUSSION.

DR. FRANK BRAWLEY cited a case in connection with Dr. Andrews' paper; although it did not follow the reflex arc through the sphenopalatine ganglion. Many examinations of the eye had been made and many different pairs of glasses had been ordered, and when he saw the case he was not able to find the refraction essentially different from the number of pairs of glasses which the patient had formerly tried. In making the nasal examination x-ray pictures were made of the sinuses which were found negative, but accidentally an impacted wisdom tooth was found and when all teeth were filmed there was an impacted wisdom tooth in each lower jaw. When these were removed there was no further need for glasses or any eye treatment.

DR. E. V. L. BROWN asked Dr. Andrews if he had seen any cases of genuine spasm of accommodation that could be attributed to such irritation through the nose; vision had been previously established to be normal, and then suddenly the patient developed apparently a myopia of from one-half to two or three D., which would be promptly corrected with a minus one or minus two glass, as the case may be; then under atropin the spasm could be relieved, but after the atropin had been stopped the spasm would return. Is there any definite relation between these cases and accessory sinus disease? Dr. Brown had seen five such cases in the past year, but had not been able to find any cause for them.

DR. OLIVER TYDINGS cited a case that came under his observation years ago. A piano manufacturer came to him with an ulcer of the cornea. Examination showed that a canaliculus

on the same side as the ulcer of the cornea had been split up while in a hospital in Copenhagen, where he spent three months fifteen years before, and there was the scar of an old ulcer of the cornea of that attack. Patient had been under the care of another oculist for some weeks without any improvement. In making an examination for other possible sources of trouble the middle turbinal on that side was found very much hypertrophied. He advised the patient, if the eye did not improve to have the middle turbinal removed as that was undoubtedly the source of the trouble. After a few days and no improvement taking place, the eye becoming progressively worse, the middle turbinal was removed. In twenty-four hours there was a marked improvement and ulcer healed in a week.

DR. ANDREWS, in replying to Dr. Brown, said he had not had a case of spasm of accommodation that could be overcome under the influence of cycloplegics.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

The regular monthly meeting of the Chicago Laryngological and Otolological Society was held in the South Dining Room of the Palmer House, on Tuesday evening, November 20, 1917, at 7:45.

As the President, Dr. Friedberg, was out of the city the meeting was called to order by Dr. Loewy.

PRESENTATION OF CASES AND INSTRUMENTS

DR. JOSEPH BECK presented a patient with a dentigerous cyst. The patient was a little boy who had a unilateral swelling of the right side of the face which was hard to palpation and which had been present for about ten months. There was associated with it a very foul odor from the mouth. It was not painful. On palpation directly over the swelling in the mouth there was at one point in indentation which when pressed in came right back. It felt like pasteboard, did not give a crackling sound, but responded to pressure. That was the cardinal symptom of dentigerous cyst, which was the diagnosis. The diagnosis was proved by x-ray pictures taken both in films and in postero-anterior exposure. The teeth in the cyst were merely formed and unable to erupt. They appeared to be the incisors and premolars. Puncture of such a cyst usually revealed fluid of a gelatinous nature. Dr. Beck showed pictures of other dentigerous cysts.

DR. HARRY L. POLLOCK showed a young man whom he had seen for the first time on the previous morning. He complained of a swelling over the right antral region which had been present for about a month. During this time he noticed that the right side of the nose was not as free as the other. There was no pain but when he bit on that side he could feel the teeth give a little. A very soft tumor which was crepitant, could be felt over the antrum. A dentigerous cyst was suspected and the x-ray examination proved that diagnosis correct.

DR. ROBERT SONNENSCHNEIN demonstrated a small vibratory mechanism which could be used as a noise apparatus in testing for unilateral deafness. It was operated by a small, dry cell battery which retailed

for about thirty-five cents. The appliance was made by Sharp & Smith and sold for \$5.00. The other noise apparatuses previously used were the Neuman, which was very expensive, and the Baraby, which was now practically unobtainable on account of the war and it had cost a considerable sum.

The disadvantage of this instrument was the fact that a good deal of outside noise was being produced, but efforts were being made to overcome this defect. In testing patients, however, with the apparatus in one ear it was found that despite this noise they were able to hear even the whispered voice in the other ear.

The advantages of the appliances were its cheapness, its portability and ease of manipulation. At least during the war it might help out in the absence of the Barany apparatus.

DISCUSSION.

DR. LOEWY was of the opinion that with two such apparatuses and a switch they could be used as a malingering test, just as was done with a noise apparatus.

DR. IRA FRANK presented a paper entitled "Dentigerous Cysts with Report of Case; X-ray Plates."

The theory of dental cysts is largely that proposed by Malessez. He held that cystic odontomas arise from a small irregular cell mass about the roots of the teeth, termed by him "debris epitheliaux paradentaires." According to New, two classes of cysts are found; namely (1) simple cysts, that is, dental or root cyst; and (2) dentigerous cysts which include enamel odontomas and the malignant multilocular cystic tumors.

The dentigerous or tooth bearing cysts occur less commonly than the simple dental cysts and are usually located in the bicuspid or molar region in either jaw. While they form usually during or shortly after second dentition they may occur later in life. The cyst wall is composed from within outward of thin flattened epithelial cells and a layer of connective tissue and bone, the latter varying in thickness according to the size of the cysts. The teeth which are missing from the jaw are found within the cyst cavity imbedded quite loosely in the substance of the wall.

History of the case what that of a boy about 12 years of age. When six years old a swelling in upper jaw just beneath nasolabial fold on left side was noticed. The lateral incisor, cuspid, and bicuspid teeth on the same side were missing and had never erupted. A roentgenogram showed the three teeth in the cyst. At the time of operation the growth filled the cavity of the antrum of Highmore. It was enucleated by an incision on buccal surfaces of the superior maxilla, with uneventful recovery of the patient.

Pathological report showed a cyst 3 by 3 by 2 cm. in size, with whitish smooth wall, containing three small but well formed teeth. The inner surface of the cyst was lined by a layer of squamous epithelium; scattered throughout the dense tissue of the outer half of the wall were moderate numbers of lymphocytes. Diagnosis: Dentigerous cyst with some acute and subacute inflammation.

DISCUSSION.

DR. JOSEPH BECK regretted that Dr. Frank had not spoken more at length regarding treatment. The treatment was interesting because recurrences were frequent. Before he adopted his present method of treatment he had nothing but recurrences. Scraping the teeth out with a curet was followed by healing only to have the growth return. A small vestige of the pithelium would remain in some part of the cyst and a recurrence would take place. The treatment which had given him absolutely perfect results was as follows: In opening the cyst the cavity was thoroughly scraped with a curet, the whole lateral and anterior wall was removed with forceps and then the hurr was used to remove the surface of the bone so that there were no remains of the epithelium. Then the cavity was filled with a mixture of spermaceti, wax and iodine—33 per cent. spermaceti, 66 per cent. paraffine, and enough iodine—about $\frac{1}{2}$ of 1 per cent. was the mixture which was used originally by Moroff, in healing cavities of the leg. This was packed in tight in the cavity and the mucous membrane of the lip side was wired to the surface above the teeth. The wax was allowed to remain in and it could be seen to be extruded until the cavity was filled up. There had never been any recurrence since adopting that treatment. In the case of the boy he exhibited he expected to adopt another method, which he thought would be even more satisfactory. This was based upon some experiments he was making with a mixture of ground up cartilage, wax and iodoform. The costal cartilage contained a substance which was eminently satisfactory for filling out a cavity,—more so than the inert substances.

One of the most interesting cases he had had was that of a lady who had a dentigerous cyst which was drained and washed and recurred for two or three years. X-ray examination showed a tooth high up in the antrum. At the time of operation he had great difficulty in getting the tooth loose, as it was very firmly imbedded. He took a chisel and pried it out and the tooth disappeared; it could not be found anywhere. He thought it might have been swallowed, but what she complained of was that her nose had become blocked. The following day she could not breathe through the side of the nose which she was operated on. On the third day an examination was made, some adrenalin being introduced, and there was the tooth in the inferior meatus. The interesting part was that between the nose and the cyst was the antrum; he had opened the antrum and while there was little blood in the antrum the tooth was not there, but had gone through the antrum into the nose.

In another case there was a cyst of the inferior maxilla. The patient was a little girl and there was a tumor on the side of the face which was an adenomatous affair. That cyst was treated in a similar manner with perfect recovery. Usually there is great danger of weakening the jaw, as the cyst absorbed the bone and spontaneous fractures had resulted as a consequence. As a rule, more teeth were distorted in a cyst which was high up and the teeth were usually not teeth but remnants of teeth.

DR. OTTO T. FREER described a dental cyst which he had removed from a young woman. The cyst had caused absorption of the right premaxillary bone and lay above the right insisor and cuspid teeth of the upper jaw, uplifting the right half of the upper lip and right ala nasi. It protruded into the nasal cavity along the anterior one-fourth of the nasal floor having taken the place of the absorbed bone. The absorption of the right premaxillary bone had deprived the cartilaginous septum of support so that it curled into the right naris, so that the anterior-inferior border of the cartilage of the septum had to be resected to free the right nostril.

DR. H. L. POLLOCK stated that all the teeth he had seen had no fangs but simply a crown of the tooth. In pictures they appeared as if imbedded in the orbit, but taken stereoscopically this was shown not to be the case. In one patient, a boy of eighteen, the third molar had not erupted, so it might be taken for granted that it was an interrupted molar on that side. The case was to be operated in the same way Dr. Beck had described and he thought there would be no recurrence if the burr was used so as to be sure to remove all mucous membrane.

DR. PAUL MARQUIS was very glad Dr. Beck brought out the point about the burr. His experience had agreed entirely with that of Dr. Beck's as regarded recurrences and in the future he would certainly use this method. He thought the cases really were divided into two groups from the anatomical situation; those which lie anterior to the first bicuspid and those which are posterior.

Personals

Dr. Guy A. Sloan, Bloomington, has been elected county physician.

Dr. E. K. Armstrong, Chicago, has been called to France for Red Cross service.

Dr. Frank W. Young, Chicago, has been commissioned first lieutenant M. R. C.

Dr. W. W. Coleman, M. R. C., of Lincoln, has been ordered to Fort Oglethorpe, Ga.

Dr. Chas. C. Renfro, Chicago, M. R. C., has been ordered to Fort Oglethorpe, Ga.

Dr. A. B. Zwaska, of Rockton, has been commissioned first lieutenant, M. R. C.

Dr. Max L. Mendel, Chicago, has been commissioned Captain, M. R. C., recently.

Maj. J. C. Dellenbach, M. R. C., of Champaign, was stationed at Fort Sheridan, recently.

Dr. Athur Sprenger, of Peoria, is first lieutenant in Kings county, N. Y., hospital unit No. 37.

Dr. H. S. Bennett, Moline, has been appointed surgeon to the Milwaukee and D. R. I. and N. W. Railroads.

Dr. George H. Chapman, Chicago, an examiner of selected men, was approached with a bribe and promptly turned the would be slacker over to the police.

Dr. Philip Rosenblum, Chicago, has been commissioned second lieutenant and ordered to Camp MacArthur, Waco, Tex.

Dr. Robert A. Allen, for six years medical director of the Westside Y. M. C. A., left March 6th for similar work in France.

Major Robert J. Gay has been promoted from the command of Field Hospital No. 131 to the directorship of ambulance trains.

Dr. B. E. LeMaster, of Bushnell, reports that he is still busy with eleven assistants in the base hospital at Roman, Roumania.

Lieut. Thomas Grant Allen, Chicago, has been

appointed chief of the medical service of Corpus Christi convalescent base hospital.

Dr. H. L. Corbus, of Kankakee, has been appointed to the medical staff of the Pennsylvania state hospital for the insane, at Harrisburg.

Drs. R. B. Cobb, A. E. Halstead, W. H. Allport, Casey Wood and Chas. M. Robertson, of Chicago, have been called into service recently.

Dr. Josephine Milligan, Jacksonville, has been called for service in France through the Rockefeller Foundation, and will work directly under the French government.

Major Patrick J. H. Farrell, survey officer and pathologist of the base hospital at Camp Tarvis, Texas, is now convalescing from pneumonia contracted in camp.

Dr. Frederick A. Besley, major and director of Base Hospital No. 12, in France, has recently been detached from that unit and is now consulting surgeon in the field.

Major Daniel W. Rogers, surgeon of the One Hundred and Thirty-Fourth Illinois Field Artillery, has been relieved from command of ambulance trains and placed in charge of Field Hospital No. 131.

A meeting of the medical women of Illinois was held March 26th, to raise funds for a women's hospital unit to go to Europe under the auspices of the Red Cross. Three hundred thousand dollars are needed for the purpose.

The following seven Chicagoans were commissioned first lieutenants in the medical corps March 11: Drs. Clifford S. Powell, Francis T. Rollins, David B. Rotman, Richard Torpin, Eugene Westernhagen, and Ingebrecht Jerdee.

Dr. Harry D. Orr, who has been director of ambulance trains at Camp Logan, Houston, Texas, has been promoted to the rank of lieutenant-colonel, M. C., N. A., and placed in command of the One Hundred and Eighth Sanitary Train.

In recognition of his excellent work as head of Camp Grant base hospital, Major H. C. Michie, Jr., has been promoted lieutenant colonel in the regular army. It is reported that over 60,000 soldiers have passed through Camp Grant, and of the 5,020 patients treated only 38 deaths occurred.

Lieut. John G. Dwyer, who was recently ordered dismissed from the Army at Camp Funston, following a court martial, has asked for a rehearing. Lieutenant Dwyer was a practitioner at Cullom. He states that the charges against him were made by Captain Whistler, who afterward robbed the bank at the camp of \$62,000, killed four men with an ax, and then took his own life.

Seventeen appointments of physicians to the medical advisory boards engaged in draft work in Chicago were announced March 18th by Maj. John M. Dodson, medical advisor to the governor over the boards in Illinois. They are:

At Wesley hospital—Dr. John D. Kales.

At the Provident hospital—Dr. J. W. McDowell.

At the West Suburban hospital—Dr. R. Von Der Heydt.

At Englewood hospital—Drs. S. L. Friduss and James Graybeal.

At St. Joseph's hospital—Dr. A. M. Hall, oculist, and Dr. Ethan A. Gray.

At St. Luke's hospital—Drs. Harold E. Jones, James T. Campbell, and F. W. Merrifield.

At the Presbyterian hospital—Drs. D. B. Hayden, Edwin McGinnis, and Robert H. Herbst.

At Michael Reese hospital—Drs. Julius H. Hess, L. E. Schmidt, Frank Lydston, and Morris Braude.

News Notes

—A fire last month destroyed the offices of six physicians in Canton.

—Drs. Arthur L. Blunt and Isaac W. Hodgens were denied their petition for a writ of certiorari by Judge Torrison in the matter of revocation of license to practice medicine.

—The Scott County Medical Society at the March meeting in Davenport, Iowa, asked the military authorities to grant the society the privilege of conducting a war on venereal diseases there.

—The editor of a Waukegan paper moralizes on the raise in rates for medical services recently put in effect by physicians there. He seems to fear that the people will deprive themselves of medical attendance with disastrous effects.

—A special car costing \$16,000 with stretcher

capacity for six patients and seating room for thirty-two persons, has been provided and will be operated between the various psychopathic institutions of the state in transferring inmates.

—Dr. Taylor, state supervisor of military zones, after a tour of inspection of Scott Field and other camps, has reported that East St. Louis must be cleaned up to make conditions safe for the camp at Belleville.

—Mrs. Neva A. Brown, widow of Henry B. Brown, president and chief owner of Valparaiso University, has brought suit in the U. S. district court to recover ownership of the Chicago College of Medicine and Surgery.

—The Peoria County Tuberculosis Sanatorium has been closed on account of the prevalence of insanitary conditions. A consultation was held between local officials and the director of the state department of health, March 13, regarding the sanatorium.

—It is reported that the state epileptic colony at Dixon will be open for a limited number of male patients about May 1. Upon completion it will accommodate 2,000 patients. Dr. H. B. Carriel, of Jacksonville, will be the first superintendent.

—Dr. A. J. Markley, treasurer of the Illinois State Medical Society and president of the Boone County Medical Society, appeared before the board of supervisors with others interested in the provision of funds under the state law for the care of tuberculous patients.

—The McLean County Medical Society met February 12, at Bloomington. Dr. J. K. P. Hawks read a paper on "Some Observations on Goiter." At the March 12 meeting, Dr. J. Whitefield Smith gave an address on "The Range of the Physiological Life of the Tonsil."

—The state civil service commission has announced the appointment of the following medical examiners, Dr. John W. Hutton, Newton; Dr. Omar A. Kell, Salem; Dr. Frank B. Hiller, Pinkneyville; Dr. W. Brown Baird, Mount Carmel, and Dr. Ross L. Moter, Albion.

—The Chicago Medical Society has formed a grievance committee to protect the profession from medical quacks, violators of the medical and other laws, and to investigate disreputable persons in the city. The committee is composed

of Dr. Fred L. Glenn, George L. Apfelbach and Otto T. Freer.

—After an investigation of the epidemic of intestinal trouble at Peoria in which 3,000 persons were afflicted, the state analyst, who examined the water, said that it had been badly contaminated and might have been the cause of the trouble. The water at present, while not pure, is in much better condition.

—At the meeting of the Robert Koch Society for the Study of Tuberculosis at the City Club in Chicago, March 28, Dr. Everett Morris, Oak Forest, gave the results of induced pneumothorax in 202 cases of tuberculosis, and Dr. Burton H. Rogers read a paper with lantern demonstration of the subject of "The Barnyard as a Disseminator of Tuberculosis."

—Plans for the joint supervision of sanitary conditions in Illinois training camps by state and federal authorities have been formulated by the office of Dr. C. St. Clair Drake, state director of health. It has been recommended to enlarge the military camp at Scott Field, Belleville, to include East St. Louis. The other six military zones in Illinois are Fort Sheridan; Great Lakes; East Peoria, which includes Peoria; Chanute Field, Rantoul; Rock Island and Moline, and Camp Grant, Rockford. Medical directors will be appointed to oversee the work of sanitation in these military zones.

—The last of Chicago's four Red Cross base hospital units, No. 14, under Major Lewis L. McArthur, left April 3 for Camp Custer for a period of training before going overseas.

Major Philip Schuyler Doane and Major N. M. Percy led the members of unit No. 11 to Camp Dodge, April 2nd.

Unit No. 13, directed by Major Dean D. Lewis, left for an eastern port March 29th.

Unit No. 12 has been in France since last May.

These units have been outfitted and equipped at an expense of about \$75,000 each. Each has a membership of 200 enlisted men, 35 doctors, 100 nurses and 6 civilians.

Marriages

LIEUT. CARL HERMAN BARTLING, M. R. C., U. S. Army, Chicago, to Miss Katherine Stewart of York, N. Y., March 23.

MATILDA OLSEN ENNIS, M. D., late of Chicago, to Mr. George A. Cowden of El Centro, Cal., at San Diego, Cal., January 1.

LIEUT. IMAS PRYOR RICE, M. R. C., U. S. Army, on duty at Camp Grant, Rockford, Ill., to Miss Emma Edlund, both of Chicago, February 3rd.

LIEUT. LESTER JOERG PALMER, M. R. C., U. S. Army, Chicago, on duty at Camp Grant, Rockford, Ill., to Miss Mercedes Blackledge of Caney, Kan., at Rockford, February 3.

LIEUT. BENJAMIN WALTER PROVOST, M. C., U. S. Army Peru, Ill., on duty in Washington, D. C., to Miss Katherine Bell Conway of Peru, Ill., in Springfield, Mass., February 12.

Deaths

WILLIAM HENRY, M. D., Harmon, Ill.; Rush Medical College, 1870; aged 78; died at his home, January 9, from cerebral hemorrhage.

LANCASTER F. SCOTT, M. D., Chicago; Bellevue Hospital Medical College, 1882; aged 67; died at his home, March 4, from gastric ulcer.

A. A. SHOBE, M. D., Jerseyville, Ill.; Missouri Medical College, St. Louis, 1869; aged 69; died at his home, December 5, from cirrhosis of the liver.

WENZEL MAJESKI, M. D., Chicago; Bennett Medical College, Chicago, 1881; aged 73, died in the Alexian Brothers' Hospital, Chicago, February 1.

FREDERICK ROESCH, M. D., Chicago; University of Heidelberg, Germany, 1852; aged 88; died at the home of his daughter, March 21, from senile debility.

ARTHUR RUBEL KEITH, M. D., Rockford, Ill.; University of Pennsylvania, Philadelphia, 1907; aged 35; died at Utica, N. Y., February 21, from pulmonary tuberculosis.

BENJAMIN FRANKLIN HAMILTON, M. D., Roseville, Ill.; Medical College of Ohio, Cincinnati, 1867; aged 79; died in the Burlington Hospital, December 18, from senile debility.

RALPH E. MOESER, M. D., Montrose, Ill.; Hahnemann Medical College, Kansas City Mo., 1910; aged 33; a member of the Illinois State Medical Society; died from injuries in an automobile accident, March 8.

JOSEPH E. LOWERY, M. D., Homer, Ill.; Drake University, Des Moines, Iowa, 1885; aged 56; formerly a Fellow of the American Medical Association; died at his home, November 18, from cerebral hemorrhage.

SILAS H. VAN DOREN, M. D., Chicago; Bennett College of Eclectic Medicine and Surgery, Chicago, 1878; aged 66; for many years a practitioner of Elgin, Ill.; died at his home, February 8, from cerebral hemorrhage.

WILLIAM ALLAN MACFARLANE, M. D., Chicago; University of Illinois, Chicago, 1890; aged 69; formerly a Fellow of the American Medical Association; died at his home, February 22, from acute parenchymatous nephritis.

JOHN HALE MANNON, M. D., Kewanee, Ill.; Rush Medical College, 1880; aged 67; a practitioner at Kewanee over 38 years and a member of the Illinois State Medical Society; died at his home, March 7, from chronic nephritis.

GEORGE MORTIMER HILL, M. D., Chicago; Hahnemann Medical College, Chicago, 1897; aged 46; professor of theory and practice of medicine in his alma mater; died in his apartment in the Hyde Park Hotel, February 10, from heart disease.

RUFUS A. DUMARS, M. D., Peoria, Ill.; Louisville Medical College, 1876; University of Pennsylvania, Philadelphia, 1877; aged 68; a member of the Illinois State Medical Society; died in St. Francis' Hospital, Peoria, February 1, from cholelithiasis.

LUTHER TITUS PALMQUIST, M. D., Chicago; Barnes Medical College, St. Louis, 1911; aged 37; formerly a Fellow of the American Medical Association; formerly a practitioner of Sioux City, Iowa; died at his home, March 7, from tuberculosis.

ARTHUR BARRETT EUSTACE, M. D., Chicago; Northwestern University Medical School, Chicago, 1907; aged 32; formerly a Fellow of the American Medical Association, and instructor in surgery in his alma mater; died in Phoenix, Ariz., February 19, from tuberculosis.

J. MARSHALL ELDER, M. D., Franklin, Ill.; Physio-Medical College of Indiana, Indianapolis, 1896; aged 46; a Fellow of the American Medical Association; a member of the American Association of Physio-Medical Physicians and Surgeons; died at the Passavant Hospital, Jacksonville, Ill., March 1, following an operation.

JOHN PATRICK GRIMES, M. D., Menard, Ill.; University of Illinois, College of Medicine, 1899; aged 42; a member of the Illinois State Medical Society; for several years a member of the staff of St. Joseph's Hospital; physician and surgeon to the Southern Illinois Penitentiary, Menard; died at St. Andrew's Hospital, Murphysboro, Ill., March 14, from cerebral meningitis.

RICHARD HUNT BROWN, M. D., Chicago; College of Physicians and Surgeons, Chicago, 1891; aged 55; a Fellow of the American Medical Association; associate professor of clinical laryngology, rhinology and otology in his alma mater; attending surgeon to the West Side Dispensary, ear, nose and throat department; a specialist on diseases of the ear, nose and throat; formerly professor of toxicology and materia medica in Northwestern College of Pharmacy; fell unconscious afterward swimming in the Central Y. M. C. A. pool, March 12, and died shortly afterward, from heart disease, it is believed.

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Original Articles

THE RECLAMATION OF THE WOUNDED SOLDIER

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By this I mean the caring for the soldier by, (a) reconstructive work, chiefly of an operative nature (correcting contractures, straightening limbs, correcting malunion or nonunion, nerve and tendon transplantation or suture, plastic surgery); (b) orthopedic correction, loosening joints, increasing muscle activity, renewing nerve impulses; (c) vocational education, teaching him a new occupation or re-teaching him his old one; (d) replacement, getting him employment and locating him in industrial life.

Of necessity this brief paper can outline or touch only the more important points.

In August, 1914, when the European storm cloud broke and Germany began her drive which was an attempt to overrun France and put her in a position to dictate terms to Great Britain, and eventually to the entire world, she was the only country that had a war machine with any semblance of perfection.

For many years she had laid her plans, and had been preparing for this eventuality, but circumstances arose which precipitated the contest almost two years before the time she had planned on, and she is now far from a realization of her ambition. Not only in the development of a commercial and social fabric, so formed as to be readily converted to military purposes; of a destroying machine with its well organized, well drilled army, with its munitions and munition plants, was she prepared, but she had done much toward the perfection of an industrial insurance which fitted very readily into a reconstructive

force for the care and rehabilitation of her soldiers who should be more or less incapacitated for army life, or for industrial pursuits. From every angle, disabilities incident to industrial life had been manipulated, massaged, electrified, experimented upon; from every viewpoint they had been studied and tabulated. As a result of this was built up Germany's industrial insurance, undoubtedly the most perfected of the day. With the experience gained through this insurance, Germany was well prepared to cope at once with a large casualty list and return in short time a great number of these casualties to the active duties in the army. This was all made possible through the paternal type of their government.

On the other hand, while the Allies were struggling with the formation of new large armies, they had to take much less prepared departments as the nucleus of an immense Medical Corps of the armies. As days and weeks and months went by they successfully overcame their difficulties and today they have medical departments that are prepared to care for the soldier from the time he dons a uniform till he is rehabilitated and placed in a position where he can earn a livelihood and be not dependent on society for his bread and butter. Furthermore, they will render him service for disabilities incident to the war at any time subsequent to his discharge, that he comes for help.

On our entrance into the conflict we were little better prepared than were our Allies three years ago. We had a small medical department, and fairly large undeveloped medical reserve corps, but only in recent months has any thought been given to the problem of the discouraged, the despondent, the disabled or the incapacitated. There is now being developed an organization that will render service to our men second to none. How large this service will be may be inferred from Canada's experience:

About 10 per cent of the forces were returned unfit for military service;

About 80 per cent of these return to work without vocational education or cannot be benefited by such;

Of the 20 per cent, 10 per cent require complete and 10 per cent partial vocational education.

With a million men in the field, we may expect 100,000 returned the first year for treatment and each year 100,000 additional may be back; of these 20 per cent or 20,000 will require re-education each year.

The work of this organization is divided into four sections:

1. *Reconstructive* for Class A, minor injuries, bruises, scratches, cuts, abrasions, slight burns. These are dressed in the trenches or dressing stations and returned to active service. Class B, major injuries, as deep cuts, sprains, lacerations, fractures. These receive primary dressing and if possible are removed to London without farther attention. If necessary, operative work is done. Convalescence is not expected to be complete for at least a week or more. It has been found wiser to transport these men as quickly as possible to relieve the base hospitals, to save transporting supplies to them and to put them in their native atmosphere. Class C, permanently disabling injuries, amputations, nerve injuries, severe lacerations with loss of tissue, brain and cord lesions. As quickly as possible these are removed and placed in London hospitals for the same reasons that Class B are evacuated and for the further reasons that they have lost their usefulness as fighting men and must be replaced in the ranks of industrial workers. So far as possible, as soon as constitutional conditions will permit or infections do not prevent, reconstruction work is completed; nerve bulbs resected, stumps reconstructed, contractures corrected, nerves sutured, malunited or ununited fractures taken care of, and the patient gotten ready for the second stage of his reclamation, viz.:

2. *Orthopedic education.*

In previous wars, governments have appeared to fulfil their duty by returning men to their homes and paying them or their dependents a small pension. A larger sense of responsibility rests with us today, for we recognize that the man who gives up his all to fight for his country de-

serves the best we can do for him. The least should be, to place him in his former position or one equally good.

To care for these men our Allies depended in the earlier months of the war on private subscription and private control. It was found, however, that such a system fell far short of the needs and was unable to cope with situations that developed. It was found that the government must have control not only of its soldiers but of the places where the soldiers were treated, and so there was appointed, as in Canada, in 1915, a Military Hospital Commission, directly under the control of the government, supported partly by government funds and partly by private subscription.

For some time this worked well, but was not perfectly satisfactory, and just recently there has been formed the "Invalided Soldiers' Commission" working through and under military control. This commission keeps a careful record of the soldier from the time he comes under their jurisdiction. He is examined, watched, studied, and reported on by the surgeon, the internist, psychiatrist, psychologist, physiologist, physical director, the vocational expert and the latest addition to the list, the pathologist. With these reports as a basis, his reclamation and vocational training is outlined by the commission.

As he is under military control, it is necessary for him not only to submit gracefully, but to cooperate wholeheartedly in the efforts to aid him. Each of the examiners outlines or executes (at a definite time) some of the work assigned. It is surprising to note the improvement in many cases, due undoubtedly to intelligent co-operation by various specialists. At Hart House, Toronto, I noted a hemiplegic playing Ping Pong. A few months previous he had a gunshot wound producing his disability. He was declared unfit for duty and assigned to Hart House for rehabilitation. After days of persuasion he surprised himself by moving his arm a little. Thus encouraged he put forth greater efforts and passed through the simpler movement stage, till now he is quite active on the floor. When he put on his coat and walked away, it required a practiced eye to note any disability. A second case of paraplegia of the lower extremities, together with a vocal cord paralysis, apparently due to shell shock, after five weeks of training is able to talk

quite plainly, although he had not spoken for months, and can now haltingly walk the width of the gymnasium, particularly when accompanied by music. This man heard that his treatment was to be stopped and with tears in his eyes, begged to be permitted to keep on. In fact, he threatened to re-enlist rather than live a cripple as he is.

With these two cases, the easier way would have been to permit them to remain dependent cripples, but if the reproach for having done so were not sufficient stimulus to carry on, then the light of joy in their eyes, the radiant smile on their faces would make it quite impossible to do otherwise than to help them.

The rehabilitation work at Hart House, Toronto, is undoubtedly equal to the best on this continent today.

Some two years ago, Professor Bott of the Psychology Department in the University of Toronto, began to study soldiers from a psychologist's viewpoint. This led him into touch with the physical condition and the effect of physical disabilities on the mind. It led him further to study the physiological disturbance, and quite recently he has enlisted the pathological department.

As a result there is being instituted a school at the university, the Department of Military Studies, which will embrace the above mentioned, and also include an electro-therapeutic, a mechano-therapeutic, and a hydro-therapeutic department.

Re-educative work begins just as quickly as the soldier is able to sit up and use his hands. It serves a twofold purpose, to keep his mind busy and prevent brooding over his troubles, and to teach him something of value. It includes the lighter work of knitting, sewing, crocheting, painting, moulding, wood carving, burnt wood-work, etc.

As soon as he is able to be about, he is given a course of exercises and treatments. These include hydrotherapy, mechanotherapy, electrotherapy, massage, passive motion by an attendant, either by hand or by machinery, active motion by the patient himself in individual muscle movement, and later by group movement. Later still, he is taken to the gymnasium and taught co-ordinate movement; he swings clubs, plays

ping pong, or football, bowls, uses horizontal or parallel bars and other gymnasium apparatus.

The development of these cases is at times most extraordinary and the morale undoubtedly improves, although a more sturdy, optimistic lot of fellows I have never seen. During this period more active constructive work is indulged in and where possible the patient is put in a workshop. It is certain that a man will develop his biceps better by pushing a plane and his triceps by a saw, his finger and hand flexors with a hammer, his foot and toe flexors with a machine in manufacturing something, than in forcing himself to do so. And then he is slowly and by easy stages brought to the next step in his training.

3. *Vocational Education.*

Adaptability has been and is a big factor in an American's life and adaptability will have to be a big factor in the solving of this problem. Many of our amputation cases cannot go back to manual labor, many of our clerks will require more fresh air than store or office provide. Many of our farmers cannot do heavy work again, and, on the whole, our industrial scheme will have to be remedied. Only by our adaptability and our willingness to accept the inevitable will many of these problems be solved.

After all these difficulties, the final and perhaps the greatest must be done. When the war is over; when our victorious armies return; when there is much to do in talking it over, then a big task will be upon us. Indeed, it is upon us even today, but in a very small way. It is the problem of

4. *Placement*, of getting the military again into civil life. Not only the lame and the halt and the blind, but the man who has come through unscathed. All of them return different from what they left us, altered in disposition, broadened in outlook, more hardy, self-reliant, enterprising, accustomed to look out for themselves, as the only way to get their own. How can we best handle them? How can we get them out of the military into the civil mode of living? How are we to place them in independence, or, in other words, how and where and when are we to get employe and employer together? Many of them are unfit for previous occupations. They will have to be taught something new; something in which the disability does not interfere too greatly.

In order that this task may be properly handled, it will be necessary to have local committees, working under the Military Commission. These committees must have a large outlook, a broad vision, and consist of medical men, physiologists, psychologists, pathologists, and students of industrial conditions. The work of these committees is intensely important, for with them rests largely the future welfare of our soldier. It is for them to see that in placements we have no misfits, to see that we have no "square posts in round holes." Their problem is a three-fold one,—to discover, first, the man's previous occupation and his adaptability to same; second, a work which he can possibly do, and, third, a work in which he is interested.

We have set ourselves for a big task. We have set ourselves to free democracy, to make the world safe for democracy, and to make a safe democracy. Let us not turn back nor hesitate till it is done. We say that nothing is too good for our soldiers. We must do our best. Then let's do it.

NEW FIELD DEVELOPMENT OF THE USE OF THE ARMY LITTER

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It was in the Napoleonic wars that transportation and systematic care of the wounded was first attempted. The litter was changed and altered during the following years until today our own

M. R. C., director of the Camp Greenleaf School of Applied Surgical Mechanics. The litter has not been changed or altered in the least, only new principles are applied in immobilization of the injured parts. This method has been found so simple and efficient that it can be readily appreciated by all.

The loading of the litter by the Allen method is a one-man's job and during light firing or lulls in the firing one man can crawl out and place the patient on the litter, leaving him if need be until some more opportune time to be transported. This does not place four men in danger and when the casualties are heavy leaves more men to care for the wounded. Two men are usually required in transporting the loaded litter. In loading the litter, the litter is taken to the patient, not the patient to the litter.

Standardization of methods of loading the litter by this method is evident. These methods fall into two distinct groups, depending upon the desirability of fixing the patient to the litter before or after loading.

In the first group the patient is fixed to the litter before loading. When the patient is found lying on his back or belly and not on his injured side, he is turned to that side. The litter is placed with the canvas top against the patient's back. The front litter sling is used to fasten the foot of the injured side to the front end of the litter. The rear litter sling of the opposite side is passed down behind the patient's back and is brought up between the thighs. Then the sol-



Fig. 1. Shows how litter is placed against back of patient and foot of the injured limb fastened with the front litter sling.



Fig. 2. Shows how the rear litter sling is passed down behind the back and up between the thighs.

dier's belt is used to elongate this sling by passing it through the loop and buckling it around the rear litter handle. The sling is padded where it pulls in the crotch. This sling is tightened until the tilt is taken out of the pelvis. The

litter stands as the very best. It never occurred to anyone to use the litter as a splint while transporting the patient.

A new method of loading and immobilizing the patient has been devised by Major H. R. Allen,

patient and litter are then slowly grounded. Fractures of both lower limbs are treated in the same manner.

In the second group the patient is loaded before fixing. The patient is turned on his side

and the canvas placed against his back. The bearer then stands at the middle of the litter and reaches over the patient and grasps the blouse and breeches over the shoulder and hip respectively, of the lower side. Then the bearer uses his arms to hold the patient against the litter, pulls upward and backward, and with the litter against the leg of the bearer, is lowered with the patient loaded. The extremities are then fixed as in the other method.



Fig. 3. Shows patient loaded and immobilized for injury of left lower extremity.

Fig. 4. Shows patient loaded and immobilized for fractures of both lower and upper extremities.

and the canvas placed against his back. The bearer then stands at the middle of the litter and reaches over the patient and grasps the blouse and breeches over the shoulder and hip respectively, of the lower side. Then the bearer uses his arms to hold the patient against the litter, pulls upward and backward, and with the litter against the leg of the bearer, is lowered with the patient loaded. The extremities are then fixed as in the other method.

A condition might arise in which it is not advisable to reach across the patient to pull him

Fractures of the arms, forearms, legs or thighs are immobilized and transported by employment of adequate fixation, first placing pads under points of pressure or pull. The arm being fractured, a padded sling is passed around the axilla



Fig. 5. Shows method of loading the litter before fixation.



Fig. 6. Shows how the loaded litter can be tilted in lifting out of trenches.

onto the litter. In such a case the bearer can grasp the blouse and breeches over the shoulder and hip, respectively, of the nearest side and pull the patient on the litter as it is lowered.

When the litter is loaded and the patient fixed, the litter can be tilted on the side, or upwards at any angle, or even inverted showing how well the patient is immobilized. The theory upon which rests the success of the treatment of frac-

and tied to the nearest litter handle. A second padded sling is tied to the forearm near the elbow and fixed to the front stirrup of the same side. The forearm is flexed on the arm to a sufficient degree for reduction and held there by a third

sling, which is fastened to the wrist and tied to the opposite rear litter handle. A fracture of the forearm is treated by fixing the shoulder as above and the wrist to the front litter sling of the same side, the arm in extension. Fractures of any or all bones of the extremities can be transported and treated by this method at the same time.

Not only is the patient quickly loaded, immobilized and under treatment, but he is comfortable. Pain in fracture cases may be caused by manipulation of parts when lifting or moving the patient, also it may be caused by muscle contraction. Both cause the sharp jagged bone fragments to prod the soft tissues, but when the ends of the bone are pulled down to the correct position and held there by adequate fixation forces, prod of the tissues and pain are eliminated. This explains the absence of pain in cases treated by this method.

Not only is pain eliminated, but also, since there is no prodding of the soft tissues, there is less laceration and hemorrhage. Splints of wood, weeds or tying the injured limit to the opposite one are not used or needed. Daily manipulation in putting the patient on or off the bedpan is obviated by cutting an eight-inch hole in the canvas under the patient for bedpan service. This eight-inch hole for the bedpan eliminates the pain experienced by the patient every time he is lifted on the bedpan. By this method the litter is lifted with the patient on it and the bedpan fastened to the hole in the canvas.

The fact that a patient treated by the Allen method is under treatment from the moment he is placed on the litter and is immobilized no matter how the litter is turned make it a method especially desirable from a military standpoint.

TRUE SENILE PROSTATE ASSOCIATED WITH MULTIPLE SACCULI OF THE BLADDER.

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CHICAGO.

The true senile prostate is atrophic and is not productive of symptoms. When, however, it is associated with fibrosis of the internal sphincter vesicæ, sacculi of the bladder or with calculus, conditions are widely different. Although the frequency of micturition and bladder infection—

cystitis—are usually attributed to the prostate, merely because the patient is senile, they are in no wise due to pathologic conditions of that organ, save in so far as the prostatic urethra may be secondarily infected or traumatized by a calculus or by instrumentation. The following case is very instructive:

Case. Patient 68 years of age, retired merchant, of excellent habits and good general health. For four or five years he had been conscious of difficulty in emptying the bladder. Micturition had increased in frequency and finally deciding that the bladder was not being completely emptied, he consulted a physician, who diagnosed enlarged prostate and initiated



Fig. 1. True Senile Prostate associated with Multiple Sacculi of the Bladder.

him into catheter life—with the usual result of infection. The patient later experienced difficulty in passing the instrument and as he was able to voluntarily pass considerable urine at more or less frequent intervals, the catheter was abandoned. Several months later he consulted the author. The prostate was found to be atrophied and the bladder sacculated, the cystoscopic picture being as shown in the accompanying drawing. The internal vesical sphincter was distinctly rigid and hypertrophic, but apparently would not have been productive of obstruction, had the vesical wall not been degenerated and lacking in tonus. There was a residuum of 29 ounces of intensely ammoniacal urine. The desire to micturate

was almost constant. Renal condition apparently normal. Suprapubic section with division of the fibrous ring at the vesical orifice was performed. The postoperative course of the case was satisfactory save for slow healing of the suprapubic wound which, however, was completely closed at the end of four months. The patient was compelled to wear a urinal constantly for about eight months, at which time he had in a measure recovered control. This improvement continued, until, as he expressed it, he wore the appliance only part of the time, and then merely because he lacked confidence in his sphincter. Death occurred three years later from uremia superinduced by nephritis complicating *la grippe*.

The author regarded this case as one of congenitally defective development of the vesical wall, which led to the formation of sacculi as soon as senile changes were superadded to the primary defect in vesical structure and tonus. Obviously, the secondary changes in the sphincter vesicæ internus offered a relative obstruction to micturition and added its quota to the changes in the vesical wall. In the presence of such bladder conditions, a perfectly normal sphincter would produce relative obstruction. Be it remarked that a normal sphincteric resistance to the emptying of the bladder is quite as effective in producing retention in the presence of defective tonus of the vesical muscularis, as is a pathologic obstruction associated with a normal or exaggerated tonus. There is a disturbance of equilibrium between the expulsive power of the bladder and the resistance of the vesical neck in both conditions.

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THE TREATMENT OF VENEREAL DISEASES RECOMMENDED FOR THE ARMY.*

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In the ILLINOIS MEDICAL JOURNAL for March, Dr. A. E. Mowry has an article in which, in an entirely frank and unobjectionable way, he criticises "some of the methods and suggestions that the advisory board have formulated and put in book form." In another place he refers to the "Board of Civilian Genito-urinary Surgeons" of the Army. I take it there is no room for doubt that he refers to the Committee on Venereal Dis-

ease for the Surgeon General and the Manual of treatment of Venereal Diseases prepared by them for the Surgeon General.

As these criticisms raise several pertinent points, and as they tend to spread an inaccurate impression of the committee's advice I take the opportunity briefly to consider them.

Prophylaxis. He thinks "the board should have gone into a little more detail regarding this important maneuver, for nine men out of ten just told to use soapsuds will do it superficially or carelessly." We quite agree with him in the latter part of his statement; but in no place do we tell the men, or let them get the idea, that all that is necessary is "just to use soap and water," nor is it left to them so that they can carry out prophylaxis in any such slipshod way. Prophylaxis is carried out in the infirmaries under the direct supervision of officers experienced in the work, and is available in the regimental infirmaries at all times in the 24 hours. The importance attached to it by the committee is shown by the fact that a brief note calling attention to its importance is the first item considered in the manual. The details of prophylactic treatment are not considered in the manual, because explicit instructions upon the subject are among army orders where they command the attention of all regimental officers.

Chancroids. "In the treating of the so-called chaneroids, the advisory board in certain cases suggests cauterization. I find the less I cauterize the better results I obtain." In certain cases the manual recommends cauterization, but only when it is done with the actual cautery or a destructive caustic such as nitric acid or chlorid of zinc. It says further: "Their (caustics) success depend on thoroughness in destroying the infected area. If the procedure fails to do this completely, it does less than good, because" "The manual then gives a page to contra-indications to cauterization.

Cauterization is given no indiscriminate indorsement. It is recommended only in cases where it is practicable to produce complete destruction of infected tissue.

Syphilis. "In the treatment of syphilis the board recommends intramuscular injections of salicylate of mercury as probably the best mercurial preparation." What the manual actually says is: "For injections, the best preparations

*Permission to publish granted by Surgeon General of Army. Superintendent, Chicago State Hospital

(plural) are mercuric salicylate or calomel in oil, or metallic mercury in the form of gray oil."

He writes further: "I can't possibly understand why insoluble mercurials be advised rather than soluble preparations such as bichloride or benzoate in large doses." As a matter of fact the manual gives the slightest preference to the insoluble preparations for injections, and this in deference to accepted views. What it says on this point is as follows: "The curative action of the injection of soluble salts of mercury is perhaps less than that of the insoluble. However, they are free from the dangers of cumulative effect which are inherent in the insoluble salts; and in emergencies, when there is need to get prompt, certain and vigorous effect of mercury, they are of great value.

Dr. Mowry, in my opinion, can well defend his preference for soluble salts for injection; but, as he reads the literature of syphilis, he can hardly fail to see how strongly the insoluble salts are held in the estimation of many men whose experience and judgment entitle their opinions in syphilis to be highly regarded.

Dr. Mowry is also a strong advocate of benzoate of mercury. "The more I treat syphilis with benzoate of mercury the less I value any other therapy, not excepting salvarsan and its good substitutes." Familiar words to those who have heard so many men advocate one mercurial or another of which they happen to be enamored! Many men have their pet mercurial preparation; but there have been so many of these pets that the fact suggests itself that many of them may have their virtues, while the supposed superiority of some particular one may be a matter of personal enthusiasm rather than of dispassionate judgment.

Without in the slightest degree questioning the value of other salts the committee recommended mercuric chloride and mercuric succinimid as the salts for soluble injection. First, because they have proved satisfactory in wide experience, and, second, in the case of mercuric chloride, because it is likely to be available under adverse military conditions. One object which was held in view in preparing the manual was to recommend approved, satisfactory drugs, but not to ask the

supply department of the army to load up with all the possible alternatives.

In another place Dr. Mowry says: "Sodium cocodylate is another undesirable and unsatisfactory specific treatment that should be discarded." From the context it might be inferred that this salt is recommended by the committee. The committee entirely agrees with him in this, and nowhere does it recommend sodium cocodylate.

I have before me the most recent monograph on the treatment of syphilis that I know. It is by L. W. Harrison, Lecturer in Venereal Diseases and Officer in Charge Military Hospital, Rochester-Row. In addition to being an expert syphilographer, Dr. Harrison can speak on the basis of some military experience—a point about which Dr. Mowry seems to have some concern—for he has no less a military decoration than that of the Order of Distinguished Service. He says: "The enormous amount of work disclosed by the above survey has not, . . . yet resulted in a compound to displace the older, well-known preparations—metallic mercury, calomel, and salicylate of mercury amongst the insoluble, and the perchloride, succinimide, bibromide, biniodide, and benzoate of mercury amongst the soluble."

"Regarding the preparations for intra-muscular injection, a close discussion as to the respective merits of the soluble and the insoluble preparations would be useless. Each has its equally powerful advocates, and the choice of each very largely depends upon circumstances."

After having observed the many waves of enthusiasm, which in the course of years have rolled by, for one mercurial preparation and another and for one method of administration and another, speaking for myself alone, I have gotten to feel as far as the treatment of syphilis is concerned, it probably does not so much matter what preparation of mercury is used or how it is administered, provided only the patient gets a sufficient quantity of mercury and in a way that does not damage him in the administering of it. For the syphilitic patient the essential thing is to get mercury; for the doctor, it is to become so familiar with a few ways of administering it that he can use it vigorously and intelligently.

MENTAL DEPRESSION*

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Mental depression, under certain conditions, is a normal reaction. For example, financial reverses, family trouble, physical illness, etc., are recognized as adequate cause for loss of mental equilibrium. In fact, this reaction is so constant that a failure to appear under appropriate circumstances provokes curiosity as to the reason for its absence. Aside from pronounced depressions, due to recognizable causes, the majority of us are subject to oscillations of mood, at times not readily understood even by ourselves. These minor depressions likewise have a physical or mental basis, with the difference that the physical ill or mental distress is so slight or so obscure as to remain below the threshold of consciousness. We have, perhaps, eaten unwisely, have not exercised enough, or some unpleasant emotional experience unconsciously drags upon us. At times a comparatively trivial experience may acquire undue importance and weigh upon the individual abnormally. We have all suffered in this way what are later realized to be unnecessary trials. In such a case the difficulty usually arises out of the fact that what seems to be, upon the surface of things, very trivial, actually represents in some manner an unpleasant experience that, up to this time, has been shelved in the regions of the sub-conscious and only brought to light by the comparatively trivial incident.

Very naturally, mental depression does not necessarily mean insanity, though it always means a loss of mental poise and expresses itself in terms of lessened efficiency. It represents, as it were, a state of relative fixation in which the mental processes fail to accomplish an orderly progression. If this mental retardation finally results in stasis we ordinarily speak of the individual as insane; that is, the physical or mental interference results in such a loss of efficiency as to render the patient incapable of adjusting himself to the demands of life as he must live it. Obviously, the more delicate and the more numerous these adjustments are the sooner this failure will become manifest.

A normal individual in good health is ready to give and take with alacrity, filled with the consciousness of efficiency that accompanies success-

ful reaction to all manner of stimuli. Depression presents the negative of this picture. The individual's inability to adjust himself to the requirements of life is accompanied by a sense of inefficiency and a feeling tone of depression. Because they are reasonable beings these patients, in their endeavor to explain this effect, argue that there must be an adequate cause and in order to satisfy this craving for an explanation they assume reasons which, if they actually existed, would be sufficient cause for the depression experienced: for example, they have sinned, they are to be killed, turned into a beast, they have abused the confidence of friends and relatives and are no longer fit for human companionship.

As in other exhibitions of mental disorder so here too there is no sharp line of definition separating the customary, so-called normal depressions from those that are evidently pathological; hence, some discussion of these latter as ordinarily met with in hospital practice, although necessarily brief, may be of assistance in interpreting similar symptom complexes in patients who are still in their homes.

Symptomatic Depression. John D., admitted to our institution in March is a fair example of this type of disorder. He was a tailor, 32 years of age, married, with 4 children. No family history was obtained. He had been actively tubercular for nearly three years during which time he worried a great deal over his condition. A few months ago he became extremely depressed and contemplated suicide. During the last few months of his life he lacked initiative, cried readily and begged to go home. If his relatives had had means and education he would have been better off at home than in an institution and, under better conditions, would very possibly not have been so depressed, nor considered insane.

Traumatic Neuroses. Following an accident, even though not a severe one, it is quite common for a neurasthenic condition to appear. The patient becomes depressed; tires easily; is not able to concentrate upon his work or upon much of anything aside from his own hypochondriacal complaints. There is a loss of emotional control; symptoms of vasomotor disorder, loss of appetite, exaggeration of superficial reflexes, etc.

Joseph B., recently admitted, manifests practically all these characteristics. He is a Pole, 58 years old and married, with 9 children; said to be a very moderate drinker and an industrious worker as street cleaner. Three months ago he was struck by an auto truck and bowled head over heels, but without apparent injury aside from bruises. He was taken to a

*Read before the North Side branch, Chicago Medical Society, Feb. 5, 1918.

hospital where he remained one day, ran away and returned home. He remained at home and began to worry. Complained that his head felt bad, nerves were wrong, etc. This depression increased until a few weeks ago he attempted to hang himself and was committed. At present he is depressed, emotionally unstable and complains of weakness. The physical findings are negative aside from increased reflexes and asthenia. He deplors his inability to earn a living for himself and family, but aside from this depression and his hypochondriacal complaints he is apparently fairly normal. With rest, encouragement, simple occupation and, perhaps, a successful settlement of his claim against the owners of the truck the patient will doubtless recover. This, however, will take time, and meanwhile, everything must be done to divert his attention from himself to some simple occupation and to protect him from self-injury.

Dementia Praecox. The prodromal stage of dementia praecox quite often exhibits a depression varying in degree from moodiness to noisy demonstrations of grief. Suicidal attempts are not uncommon. Twenty-five or thirty years ago these cases were commonly considered melancholic and little attempt was made to separate them from the more temperamental disorders we shall consider later.

In the first stages the patient loses interest in the ordinary affairs of life; stops work or works only listlessly; sits about silently brooding or makes complaint of his shortcomings or of the persecutions he must undergo. Intermingled with these expressions of depression, however, it is common to observe various odd acts and utterances that do not fit in with the picture of depression.

For instance, take the case of Miss Theodosha F., aged 27 years, admitted at Kankakee in 1911, apparently much depressed, whining, crying, showing some agitation and an air of martyrdom. She asked to be prayed for and remarked she had to suffer, was a liar, had killed someone, had been wicked toward her mother, had made money dishonestly, etc.—all symptoms of a depressed state of mind.

Now, in the young and often in those of riper years, a state of genuine depression always tends to recovery, that is, a simple oscillation of mood means a return to normal in time. If, however, there are symptoms pointing to the disturbing presence of peculiar thoughts and interests not in keeping with a state of depression alone, the prognosis becomes a guarded one. In such a case we are very probably in the presence of what has been termed *schizophrenia*—a splitting of personality—by which we understand the occurrence

within the ego or psyche, of events that may be somewhat likened to the happenings in Russia to-day; that is, a portion of the body politic, heretofore suppressed and denied pretty much all expression in affairs, one day, by virtue of some internal upheaval, assumes more or less autonomy and even usurps the reins of government.

Miss F., as a matter of fact, presented a great number of very queer fancies. For instance, she thought that she had had a child who was John the Baptist. She fancied at times that she had killed a cousin, thought that a student was in love with her and that the spirit moved her to go to church and marry him, though he had actually taken very little interest in her. All of these ideas, when traced, led to a common origin in sexual interests aroused in childhood, but held in leash for many years by moral precepts religiously obeyed. They had, as it were, been allowed to exist behind closed doors and had not been accepted and incorporated as a part of her regular mental experience. As a result, these interests finally succeeded in splitting themselves off from the patient's everyday self and assumed a semi-independent existence that so seriously interfered with her moral everyday life as to lead to self-reproach and depression. Gradually the rift widened to a chasm and the patient became less and less fit to carry out her vocation as a music teacher and was finally committed. During the years since her commitment she has continued to deteriorate. She is no longer depressed by the turmoil within; rebellion has resulted in anarchy and the patient has degenerated into an ordinary case of dementia praecox.

In cases of this kind, good-habit formation is at present the greatest hope we can hold out, though it may be possible in selected cases, when taken early enough, to effect some reintegration of personality by psycho-analysis together with correction of environment, occupation, etc. Many of these unfortunates, if patiently guided, can build upon the wreck of their old selves new personalities—at the best only compromises—but good enough to enable them to live with some comfort in an institution or outside one if properly supervised. I regret we cannot go further into this interesting subject at this time.

It should be kept in mind, as before stated, that many of these cases, especially in the early stages, when tormented by strange thoughts and impulses, which they look upon as interferences from outside themselves, become seriously depressed and often make unexpected suicidal attempts. Fortunately, these are not always carefully thought out. At times they are even foolish. The other day two of our dementia praecox pa-

tients attempted to kill themselves, the one by scratching his face and neck with a piece of tin and the other by sawing at his throat with the back of a saw. The latter patient prior to commitment, however, had made a serious attempt as evidenced by a long scar on the neck extending upon one side from the carotid to the larynx.

Toxic and Infective Psychoses. The chronic alcoholic who suddenly begins to hear hallucinatory voices is usually apprehensive but not, as a rule, so much depressed as irritated by these experiences. At first he is apt to attempt to retaliate upon his supposed persecutors, but after a time, in certain cases, the constant stream of threats and insults from the lips of unseen enemies breaks down his resistance and the patient attempts to end it all with self-destruction. Inasmuch as the cause is a toxic one, the majority of these cases recover quite rapidly with abstinence from alcohol. A portion, however, go on into a state of dilapidation very similar to that of dementia praecox. In these cases alcohol is merely the exciting cause of the breakdown.

During an acute febrile disturbance a patient may suffer from distressing hallucinations of both sight and hearing, accompanied by confusion and marked fear reaction. Many a typhoid or pneumonia patient has jumped from an upper story window during the height of his delirium. The same condition often occurs during or soon after apparently mild infections such as grip, tonsillitis or a slight puerperal fever.

Not long ago the writer saw in consultation a woman, aged 57 years, who had worried a great deal over the application of the draft law to her two sons. Her previous history was negative. She had lost sleep, showed a coated tongue, became quite weak, thought the people were in her room at night and felt that she had not the money to pay her hospital bill, though she was actually well to do. Although she was in the pre-senium, it appeared possible that the trouble was mainly of a toxic nature and, as a matter of fact, with rest, elimination and baths she recovered in six weeks.

Depressed Phase of Manic Depressive Insanity. Of all psychoses, what is known as the manic depressive group and another closely allied to it, pre-senile, or involuntional, melancholia, furnish the most marked and consistent symptoms of

mental depression. The manic depressive group is so named because of the tendency to exhibit in the same individual, at different periods of life or in closely succeeding attacks, a state of elation and again one of more or less intense depression. The physician in outside practice sees these cases in their incipiency and many of them never reach a hospital at all. The state of elation is not within the realm of this paper. In the depressed state the patient loses in weight, is absorbed in his own sad thoughts, is hypochondriacal and often the prey of all sorts of depressing ideas. It is of these that Burton, in his *Anatomy of Melancholy* writes:

I will change my state with any wretch,
Thou canst from goal or dunghill fetch.
My pain's past cure, another hell,
I may not in this torment dwell,
Now desperate I hate my life,
Lend me a halter or a knife.

In other cases the most marked feature is the mental and physical slowing down which sometimes amounts to a cessation of all activities save those necessary to maintain vegetative life.

We have recently admitted Walter B., a man aged 41 years, who is so much slowed down, or retarded, that he lies in bed almost motionless. A few months ago, following grief over the death of a sister, he became hypochondriacal and developed an idea that he was about to die. Soon after admission to the hospital he sank into a stuporous, bedridden condition from which we expect him to recover in time, provided we can keep him nourished, for at present, he is emaciated to an extreme degree. I have seen a woman similarly affected remain motionless for months save when turned in bed by the nurses. She sank to a weight of but 60 pounds and finally recovered perfectly with a gain of 40 pounds with a few weeks.

Veronica S., admitted about the same time, exhibited a different type of depression and has already recovered. She is 41 years of age and a domestic, unmarried; previous history negative. The attack began quite suddenly with a feeling of "being sick in the head." She was taken to the County Hospital; from there to the Psychopathic Hospital and thence committed here. She was depressed and somewhat apprehensive, complained that she had not been able to work, "would just stand around and think," and on this account went to the County Hospital. It seemed to her as if the devil were in her, she could not sleep, heard strange noises and was afraid, thought she was to be shot and burned. She felt she was lost, must die a slow death, etc. The physical examination was negative. The picture is a very common one in this type of disorder. The noticeable feature of the case is the fact that the patient cleared up completely

in 24 hours' time, is now happy and smiling, realizes she was sick and wants to go home.

These are hopeful cases. If they do not commit suicide they will recover within a few weeks or months, almost without fail, although backsets and relapses are quite common. The vital things to do for them are to see that they eat enough and do not harm themselves. Hydrotherapy is of some benefit. These patients suffer from an oscillation of mood that tends to come to rest again at what is their normal; though, as before stated, the pendulum often swings again as far the other way, that is, toward elation, either immediately following the depressive attack or at some later time following a normal interval of anywhere from a few months to ten to twenty years.

Some attacks are well marked, but brief in duration, while others, though mild, extend over a long period of time. I know of a woman not at all insane whose life seems to run in long cycles of alternating mild elation and depression. Her mother was, at one time, badly depressed. Just at present this woman leads a very active life and, though she is the mother of two young children, feels she should not worry over them for they get along just as well, even better, if she spends but comparatively little time with them. She is energetic now, runs a car all day when the weather permits, is keen to meet people and to make plans, and looks upon life from a very material standpoint. Some years ago it was difficult for her to make decisions with the result that she actually accomplished very little. At that time she rather dreaded going out among people, took her home responsibilities seriously and speculated a good deal upon metaphysical subjects. Hers is a good example of how mild these manifestations may be and how apt we are to come upon them anywhere and at any time. In fact, many of us show these oscillations of mood to some extent. We have our good and our bad days, or weeks, or months—only our good and our bad are not pronounced enough to attract the notice of an alienist.

Pre-Senile or Involutional Melancholia. In later life, between the years of 50 and 60 there is apt to appear a type of disorder somewhat similar to the above, known as pre-senile or involutional melancholia. It is here we behold the picture of mental torture painted by a master

hand in the somber colors of depression, agitation, apprehension, self-accusation and emaciation.

The trouble begins very gradually with worry and self-accusation and is very possibly grounded upon the growing sense of physical inferiority that results from the general involitional processes at work at this age. These symptoms, exhibited at this time, are bad omens and call for tactful supervision to guard against possible suicide. Practically all cases mull over this idea more or less and not a few carry it into execution. Not all cases recover; possibly 30 per cent. It has recently been the writer's good fortune to observe the recovery of a man of 59, who began to worry three years ago following a building operation that proved more expensive than he had anticipated. He had always been a quiet, rather introspective individual and now began to worry over the fact that he had wasted, not only his own money, but that of his sister, whereas, in fact, he had not lost any money for her. This depression gradually grew worse until at one time the patient even denied the existence of any money in the world. He became emaciated, wandered about the ward, or sat despondently in a chair wringing his hands. After a year's time he gradually began to improve, was given parole of the grounds and clerical work in the offices. After another year he was taken out in a rather apathetic frame of mind, but after still another year at home he now seems to be almost himself again. In this case I had, from the very beginning, made a rather faint-hearted prognosis of recovery, based on the fact that a brother and sister had both been unwell at one time in their lives and had recovered; that is, along with a family tendency to mental upset, there existed a tendency to readjustment and recovery, which tendency, fortunately enough, likewise manifested itself in the third member of the family to be attacked.

Paresis. One other type of disorder in which depression may appear deserves passing attention. General paralysis of the insane is a disease well known to every physician, but so commonly associated with marked neurological findings and a fatuous or grandiose bearing, that when it appears insidiously with depression and without marked neurological signs, even the elect may be

deceived. For this reason it is a safe rule in all mental disturbances, in subjects over 40 years of age, to examine the spinal fluid. As a result of failure to obey this simple rule, we once received a general paralytic who came to us from one of the greatest psychiatric clinics in this country labeled as a case of "neurasthenia." In the case of women we must especially be upon our guard, for the female paralytics often exhibit milder symptoms than the male, deteriorate more slowly and in consequence may be easily overlooked.

Aside from the types mentioned there are, of course, many other varieties of mental disorder in which transitory mental depression appears. These however, that have been so hastily sketched, illustrate in a fair way those disturbances in which depression is apt to be so prominent a feature as to necessitate special attention.

REPORT OF SOME INTERESTING OPHTHALMOLOGIC CASES*

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In casting about for a subject to discuss before you this evening, I decided to report several interesting cases which I have had the pleasure of seeing, rather than to attempt the presentation of a paper dealing with any one of the numerous problems connected with our specialty. Such papers it seems to me are better adapted to the quiet of one's study where one can at his leisure ponder over the subject and pursue the numerous bypaths which are revealed. But in an address, such immediate consideration is fatal, and in my own case I have frequently found myself completely out of tune with the speaker, because I had been temporarily distracted by the consideration of the possibilities of one of his statements. I do not believe that in the present paper you will find many thoughts to lead you astray in this way, and if such an incident should occur, you will easily regain the thread of the discourse.

Two at least of the cases which will be reported, I am sure will prove of great interest to you, as to the best of my knowledge no similar cases have been reported. Furthermore, I have asked several obstetricians and they have stated they have not heard or read of any. They are two cases of

prenatal infection of the conjunctiva. I use the word prenatal, because both cases have these facts in common, namely that the labor was normal, the bag of waters ruptured normally and the infection was discovered almost immediately after the child was born.

Case 1. I regret that I have lost my notes on this case, but I have a distinct recollection of it. It occurred during my services as oculist to the St. Louis City Hospital in 1915 or 1916. As stated, following a perfectly normal delivery, the attending physician noticed that the lids of the child were very much swollen, so much so that he was unable to separate them. There was a small amount of discharge, which unfortunately was not examined for microorganism. An antiseptic was instilled into the conjunctival sac and boric acid applications were used. I saw the case about ten hours later. The lids were still swollen and I was compelled to use retractors to separate them. On the conjunctival surface of the left lower lid was an oval ulcer about 4 mm. by 1.5 mm., covered with a greyish exudate, whose removal was followed by some bleeding. A smear was made of this, also a culture. The former was reported to contain diphtheria bacilli, but this diagnosis was later changed to pseudo-diphtheria on the strength of the cultural findings. The other eye showed only some slight discharge. Owing to the supposed diphtheric infection, the infant was sent to the isolation hospital, and I did not see it again, but the attending pediatrician subsequently informed me that the eyes had entirely recovered. I might add that a Wassermann of the mother was negative. It is an interesting speculation as to just how the eyes were infected. Three facts make me believe in an intrauterine infection: (1) the normal labor, (2) the appearance of the eyes at birth; (3) the impossibility of a development of the ulcer between birth and the time I saw the case.

Case 2. Baby G. Referred by Dr. Hedgcock.

Mother, primipara, was delivered April 22, 1917, at the North Chicago Hospital of a baby 2 weeks over due. Labor lasted about 12 hours. At 3:30 a. m., the bag of waters ruptured and the baby was delivered at 4:30. It was immediately noticed that the eyes of the baby were markedly swollen; the lids were closed and bulging. Owing to maternal complications, they could not be attended to for about an hour. The lids were then found glued together, and on separating them, a large amount of purulent secretion ran out. Unfortunately no culture was taken at this time, and 2 per cent silver nitrate was instilled. Three hours later there was still considerable discharge, which was removed. I saw him one hour later. The lids were so swollen that retractors were necessary to separate them. The conjunctivae were red and somewhat edematous, but the cornea were unaffected. A smear and culture were made. The former showed streptococci and staphylococci, but no gonococci, while the culture remained sterile. Under cold compresses and

*Read before the Milwaukee Eye, Ear, Nose and Throat Society, Dec. 4, 1917.

5 per cent silvol, and later 2 per cent zinc sulphate, the conjunctivitis was cured in about ten days.

Case 3. Mr. C. M. S. presented himself December 21, 1916, with a typical acute iritis of the right eye. History of rheumatism, but no syphilis. Under the usual local treatment and calomel, sodium salicylate and sweating, the condition improved, until January 4, 1917, when the eye became worse, especially the pain was more severe. As the tonsils were degenerated, they were removed January 6, 1917, on the theory that the ocular lesion was the result of a focal infection in the tonsil. In spite of this, the eye became worse for a few days, then began to improve. January 19, there was another relapse and the eye continued to grow worse. On January 23, I started him on injections of vaccine prepared from his tonsils and the eye almost immediately began to improve. February 9, all inflammation had disappeared. February 20, the eyes were normal and the patient was free from rheumatic arthritis for the first time for a year. However, on February 22 he returned saying that the day before his right eye had become flushed, and that he had immediately started the use of atropin. The patient was again questioned as to his history in the hope that some etiologic factor might be discovered. He again denied syphilis, but stated he had had gonorrhea seven years before, and at the present time had a swollen testicle. A complement fixation test was made, which proved 35 per cent positive. Tubercular involvement was excluded by tests. On February 26, injections of gonorrhoeal vaccine were started. Patient had severe reaction in form of malaise and headache, but the injections were continued until April 6, three times a week, with a resulting improvement in the general health and a cure of the ocular condition which has been permanent. In this case there were probably two foci of infections which involved the eye, namely, the tonsils and the testicle. The vaccine from the former improved the condition temporarily, but no permanent results were obtained until the antigenococcus vaccine was employed. It is possible that the tonsillar condition was itself a manifestation of a metastatic gonococcal infection which would well account for the improvement following their removal and subsequent treatment with vaccine prepared from them.

Case 4. Mr. L. B. The history of this case runs back to March 5, 1908, when he was seen by another physician who diagnosed iritis and treated him according to the accepted methods with complete cure in a few days. April 4, 1908, he had another slight attack. February 16, 1909, a similar attack. May 30, 1910, another attack. All of these yielded to local treatment in a few days. A test for syphilis proved negative. April 20, 1912, chronic hypertrophic rhinitis, treated with local applications. March 6, 1914, chronic hypertrophic rhinitis with secondary pharyngitis. April 19, 1916, pains in right side of jaw radiating into ear. Treated as rheumatic condition and cured. Vision normal; refraction plus 1.5s. June 19, 1916, tonsils

removed. September 28, 1916, pain in left eye with circumcorneal injection. Diagnosis: acute recurrent iridocyclitis. Attack cured in a couple of weeks.

Except for the tonsillar and nasal conditions, which had been treated, there seemed to be no other focus of infection except some badly decayed roots of teeth, which were literally bathed in pus. The patient had been repeatedly urged to have them removed, but had always refused or procrastinated. He came under my observation the first time January 31, 1917, with the symptoms of an acute iridocyclitis of the left eye. By February 12 the eye was quiet. June 4 he had another attack, which became so severe that patient was sent to the hospital on June 11. He remained a week, and was then so much improved that he was allowed to go home, with instructions to report regularly for treatments, which, however, he did not do. On June 23, he called up to say that the eye had been comfortable until that day, when there was a return of the condition in an aggravated form. Advised sweating, atropin, etc. June 24 he was worse, pupil not dilated. Advised more frequent use of atropin. The condition improved somewhat, but patient still suffered a good deal. On July 1 he was finally persuaded to have his teeth extracted. The eye at once began to improve and by July 4 the patient was discharged as cured. Since then he has not had any attacks, and I am convinced that the cure is permanent, and would have been accomplished long ago had not the patient clung so tenaciously to his diseased teeth.

In these two cases we see the beneficial results which follow soon after the eradication of the focus which caused and kept up the eye disease. However, it is often very difficult to find the focus, or to diagnose between several possible foci. In the former case the search must be kept up until the focus is located. In the latter the several foci must be eliminated one by one by medical or surgical treatment until a cessation of the eye symptoms indicates that the offending lesion has been conquered.

Case 5. Mr. H. L., merchant, aged 50 years, consulted me September 24, 1903, on account of not seeing well. Examination showed normal eyes as far as any pathologic changes were concerned. However, his vision was 6/18 right eye increased to 6/6 nearly with — 1.5 cyl. ax. 165; left eye 6/20 increased to 6/8 with — 1.5 cyl. ax. 75. The corneal astigmatism as measured by the ophthalmometer was 2.0 D. ax 75. He had never worn glasses, and I considered that failure to get 6/6 vision was due to that and to the oblique astigmatism. I prescribed the above lenses, with an additional plus 1.5s for reading. Nine years later, an additional plus 1.5s, or total of plus 3.0 combined with cylinders was necessary for reading. Three years later, at which time his age was 62, he came with the statement that his sight had been getting worse, especially that of the left eye. V. R. = 6/20, increased to 6/8 — 4.5s. L. E. V. = 1/20 nearly. No improvement with glasses. Beginning cataract in both eyes; right cortical, left cortical and nuclear. Urine

normal. The cataracts continued to develop and the left eye was operated on December 12, 1915. The patient was probably the most unruly I ever operated on. From the time of the corneal incision to the time of the expression of the lens, the eye was moving from side to side or up and down. I managed, however, to make an iridectomy and capsulotomy, and expressed the lens when the eye was quiet for a moment. No attempt was made to perform the toilet of the eye, except a quick thrust of the spatula from each side to replace the iris. I was glad when the patient was back in bed and the eyeball intact so far as I knew. At least no vitreous had been expressed before the eye was bandaged. I used my regular method of bandaging, namely, a small amount of 2 per cent atropin ointment in the conjunctival sac, a light pad with adhesive strip over the eye, and over this a shield retained by adhesive straps. The patient seemed to be comfortable, so the eye was not dressed for 5 days, and when looked at then was in very good shape, pupil widely dilated, anterior chamber reestablished, etc. However, the remnants of the capsule threatened a secondary cataract. On December 31, 1915, the patient was allowed to leave the city for New York, where he went under the care of another oculist. Although atropin had not been used for over a week, the pupil was still widely dilated, and this dilatation of the pupil continued until I saw him again March 11, 1916. In the meantime, the capsule had retracted upwards, and was filling out the coloboma left by the iridectomy. The vision in this eye was less than 6/60, increased to 6/6 with plus 8.0s combined with plus 1.0 cyl. ax 180. In the right eye the cataract had progressed somewhat. It became mature about the middle of 1916, and I operated on it November 13, 1916. The patient was much quieter and nothing untoward marked the operation or the subsequent course of the case. The unusual dilatation of the pupil was not noticed this time. (I may say that the dilatation of the left pupil continued until about June, 1916, when the pupil began to contract without any treatment, and at the time of the operation on the right eye was of normal size.) On December 10, 1917, I was able to refract patient and give him glasses. V. R. E. = less than 6/30, with plus 11.0s V combined with 6/6 nearly, V. L. E. = < 6/30 with plus 10.0s combined with plus 2.0 cyl. ax 180 = 6/6 nearly. In both eyes the capsule had retracted upward and filled the iridectomy coloboma. I have been informed by letter since then that the patient's vision has remained good, and he is able to perform his work as well if not better than he formerly did, except for the inconvenience of changing glasses, as I did not think it advisable to give him bifocals.

There are several interesting features about the case. In the first place, the patient was an uncle of mine, which possibly contributed to the difficulty of the first operation. Not that he lacked confidence, nor was I unduly anxious as to the outcome, but I believe that the relationship made him possibly less amenable to instructions. I cannot recommend that an oculist seek

to operate for cataracts upon relatives. In the second place, I cannot explain the high degree of pupillary dilatation nor the length of time it persisted after the discontinuing of atropin—at least six months, nor why it spontaneously disappeared. In the third place, the astigmatism changed from a myopic oblique form to a spherical refraction in one eye and a hyperopic astigmatism, axis 180 in the other. As the refraction at the first visit showed that the corneal astigmatism was about the total astigmatism, I conclude that the healing of the corneal incision altered the curvature of the cornea to such an extent as to compensate completely for this amount in one eye, and to over-correct it in the other, changing it to a hyperopic astigmatism. It seems to me that it would be a justifiable procedure, in cases of high astigmatism, especially if simple, to make a simple corneal incision, in the hope that its subsequent healing would produce a lessened amount or even a small amount of the opposite kind. My experience has been that following a cataract extraction a cylinder of plus 1.5 D. to plus 2.0 D. axis 180 has been necessary to correct the resulting astigmatism, if there was none before the operation, otherwise a cylinder about equivalent to the difference between plus 2.0 D. ax. 180 and the form and amount previously present.

Case 6. Patient at the St. Louis City Hospital, aged about 55 years, was referred to me on account of a cataract in the left eye, which he had had for some time. The mentality of the patient was not very high, and it was almost impossible to obtain a history from him. To all outward appearances the eye was normal, tension perhaps slightly lowered; projection good, vision hand movement. I decided to do the extraction with iridectomy under cocain anesthesia. The usual amount of cocain 4 to 5 drops of a 5 per cent solution was used. As soon as the corneal incision was completed, the eyeball collapsed. I do not mean that the cornea became concave, as has happened a few times in my experiences, but the sclera itself seemed to fall in at various places. Pressure of the spatula against one side would leave an indentation at that point while smoothing out the remainder of the eyeball, just as occurs in a rubber ball which has lost its elasticity. No difficulty was found in performing the iridectomy or the capsulotomy, but an attempt to express the lens in the ordinary way resulted in failure. It was necessary to go into the eyeball from above and place the loop behind the lens. Then pressure upon the lens in front by a spatula placed on the cornea made it possible to deliver the lens between the two instruments. No vitreous was lost. An air bubble made its appearance in the anterior chamber, which was partially expressed. The patient was allowed to remain on the table for an hour and then placed in bed. Considering the decrease in intraocular pressure, and the rather rough handling which the eyeball had suffered, in the attempt to remove the lens, I confidently expected a summons to remove the eye on account of intraocular hemorrhage. To my surprise and pleasure, on my examination the next

day, I found the air bubble gone, the eyeball with a normal contour, a deep anterior chamber, and a fairly well dilated pupil. A low grade iritis developed which did very little damage, as a vision of 6/10 with glasses was finally obtained. The only sign of the condition found at the time of the operation that remained was a persistent unusually deep anterior chamber. The patient was an unusually quiet one, otherwise I am sure I never would have been able to get out the lens. I cannot explain why the eyeball collapsed, as there was no senility present elsewhere in the patient to lead me to expect a lack of stamina in the eyeball. Of course, after the corneal wound had closed, enough aqueous would be secreted to restore the eyeball to its normal contour. As to the air bubble, it has been my fortune a few times to have patients, where a toilet was practically impossible and occasionally an air bubble of moderate size was left in the anterior chamber, but never have I had any bad results from this cause. The air is either absorbed or expressed by the eyeball itself before the corneal wound has entirely healed. What might happen if a very large bubble were left behind I cannot say. I always try to express whatever air may be in the anterior chamber, but am never worried if circumstances compel me to leave a small bubble behind.

Case 7. Was seen by me at the St. Louis City Hospital in 1916. He had bilateral mature cataracts, vision hand movements, projection good. He seemed an intelligent patient and rather quiet, so I decided to do a Smith's operation, incidentally my first. There was not the slightest difficulty in performing it, as the patient was perfectly quiet, nor were there any complications such as vitreous loss, incarceration of iris, etc. As usual, I placed some 2 per cent atropin ointment in the eye and bandaged it with a small pad and adhesive straps. I saw him two days later. He stated the eye had felt uncomfortable, but there was no actual pain. When the pad was removed, I was amazed to see an enormous swelling of the lids, which in amount did not fall below that seen in cases of gonorrhoeal conjunctivitis. That of the upper lid extended over the nose internally and out to the temples externally, while that of the lower lid involved the upper portion of the cheek. One comforting feature was the absence of any exudate coming from between the lids. By the aid of retractors I carefully separated the lids and instead of an eye involved in a state of extreme panophthalmitis, as the external appearance led me to expect, I found an eyeball which was entirely normal, except for an unusual amount of hyperemia of the ocular conjunctiva. The wound had healed nicely, the pupil was dilated, and there was a deep anterior chamber. The eye was redressed with 2 per cent atropin ointment and eye pad. Twenty-four hours later the swelling had somewhat receded and in a few days had disappeared. The injection of the conjunctiva persisted, however, a much longer time than usual. Two weeks after the first operation I operated on the other eye, and the course of the case was

identical with that of the other eye, except that the swelling was not quite so severe. The result was very good, a vision of nearly 6/6 being obtained in both eyes. I am entirely unable to account for the post-operative edema, as I never saw a similar condition in any operation, Smith's or von Graefe, except where it followed an infection of the eye with subsequent panophthalmitis. I have thought it might have been the ointment, but that was used during the subsequent dressings, and nevertheless the edema disappeared. Coming in conjunction with my first attempt at a Smith's operation, I could believe it due to some error in technic, only for the fact that it never occurred again, with an exactly similar technic. It was probably an angioneurotic edema, but what caused it I must confess I don't know.

Case 8. It is always pleasanter to chronicle successful cases, than unsuccessful ones, but the latter are frequently the more instructive. M. M. came to me at the Alexian Bros. Hospital, St. Louis, in 1915, with the history of decrease in vision which had developed within the last few years. Examination showed a bilateral dislocation of the lenses into the vitreous chambers, the lenses themselves being cataractous. They floated freely in the vitreous and would fall forward when the head was lowered. Vision was reduced to about 6/30 in each eye. I explained to the patient that the condition would probably result in blindness and gained his consent to an attempt to remove the lens. The left eye was selected as the one to be operated on as its vision was slightly less than that of the other. The pupil was dilated with atropin, and the patient placed in bed for about a week. At the end of that time the lens had come forward and lodged in the pupillary area, and did not fall back when the patient lay on his back. However, the tension of the eye had increased, and there was some injection of the ocular conjunctiva. I followed the usual steps of the v. Graefe extraction until I came to the delivery of the lens. Then it was necessary to insert a wire loop back of it and deliver it between that and a spatula pressing on the cornea. The usual post-operative dressing was applied and the patient put to bed. He passed a comfortable night, and when seen 24 hours after the operation the eye presented the usual post-operative appearance. At 9 o'clock that night I was notified that the patient was in pain and that the dressings were bloody. It was impossible for me to see him at that time, but I gave orders for morphin and cold applications to the eye. When I saw it next day the dressings were blood stained, the corneal incision had separated and between the lips a clot of blood presented which extended back into the eyeball. Vision was gone and the tension was greatly increased. Evidently an intraocular hemorrhage had developed either spontaneously or following some movement of the patient. The history was rather vague on this point as the patient was in too great pain to answer intelligently, and no one had been present at the time the hemorrhage started. Lo-

cal measures having failed to relieve the condition, the chapter was closed by a successful enucleation. The patient then drifted away to another oculist who advised him not to have anything done to the other eye. That made three whose opinion was the same, the patient and myself being the other two.

Case 9. This was a girl aged ten years who came to the Grand Avenue Dispensary, St. Louis, in 1903 with history of being unable to open her eyes for the last few days. There was no history of diphtheria nor could any other paralysis be demonstrated. The lids hung down and the girl looked out from under them as in congenital paralysis of the levator. When the lids were forcibly raised, vision in each eye was 6/6. There was no signs of congenital syphilis, and, of course, we knew nothing of the Wassermann reaction then. The total absence of any history or other lesion made me suspect that she might be a hysteric patient, as the mother said the child was very nervous. Acting on this theory, I forcibly massaged the lids with my thumbs and then told her she could open her eyes, which she proceeded to do to their normal extent. A few subsequent treatments with the galvanic current completed the cure. However, she returned several months later with the same condition which yielded as readily to the same treatment, and so far as I know the cure this time was permanent. The treatment, of course, was purely suggestive, since by no stretch of imagination could one believe that one massage could restore the power to a paralyzed levator. Had the case been seen by a scientist or an Osteopath or any of their ilk, it would have been heralded as a marvelous cure, due to the efficacy of the particular nostrum of the attending healer.

Case 10. Miss M. H., aged 17 years, was seen by me Sept. 23, 1917. She complained that she was completely blind in the left eye and near sighted in the right. She had never suffered from sore eyes, or from headaches. She was wearing glasses which had been given to her by an optician. Her father was near-sighted and her seven brothers and sister were also near-sighted, one of the brothers having one bad eye, condition not known. The only symptoms of which she complained were blindness in the left eye and a tendency to blink.

Examination showed normal pupillary reactions in both eyes, direct, consensual and accommodation-convergence. V. R. E. = 1/10 V. L. E. = complete amaurosis, not even perception of light being present, although I made repeated tests. Nystagmus was not present. Romberg not present. Patellar reflexes abolished. Nothing of special importance was elicited from a general examination except a decrease of sensitiveness of the pharynx and cornea. The visual field of the right eye showed a concentric contraction for white, with a corresponding contraction for red and green with interlacing. Of course, it was impossible to take the field of the left eye. Attempts to determine simulation by means of the prism test was inconclusive. Under homatropin, the objective refraction was $-1.75s \text{ C} -0.5 \text{ cyl ax } 180$ in

each eye. Subjective refraction of the right eye was V. $< 6/30$ increased to 6/6 with $-1.75s \text{ C} -0.5 \text{ cyl ax } 180$. V. L. E. = O. I was not satisfied, however, that the patient was blind, nor did I believe that she was simulating, although the mother had confided to me that the girl was very strenuously objecting to being sent away to school. The interlacing of the color fields in the right eye and contraction of the white, with absence of any fundal lesion, combined with anesthesia of the cornea and pharynx convinced me that I was dealing with a case of hysteria. However, it was necessary to treat it as a case of simulation, which I did in the following manner, a method which I have used several times with success. The supposedly blind eye was covered and full correction was placed in the front of the good eye. Of course, the patient could see 6/6. Then the 20 meter line was brought into view and the bad eye uncovered. Then a plus 4.5 lens was placed in front of the good eye, and the patient still had 6/20 vision. Now the patient without any lens had less than 6/30 vision and had myopic astigmatism, and consequently, a plus 4.5 lens would make the vision even worse. Therefore, she must be reading with the supposedly blind eye. In order to cinch the proof I placed a plus 11.0 lens in front of the good eye, and the patient still had 6/20 vision. Then I had the patient close her bad eye while keeping the good eye covered with the plus 11.0 open. Of course, she couldn't read anything, but could, as soon as she opened her bad eye. Having thus proved to her that she did have vision in that eye, it was easy to refract her. However, I was able to get only 6/12 vision with $-1.75s \text{ C} -0.5 \text{ cyl ax } 90$ which she accepted instead of the $-1.75s -0.5 \text{ ax } 180$ which I had found objectively. I regard the case as one of a fundamental amblyopia ex anopsia aggravated by hysteria into a complete amaurosis. The patient seemed very grateful at being shown she could see with eye, so I don't believe she was simulating.

These cases have been selected out of an experience of some seventeen years because of their rarity rather than because of any particularly lesson to be learned from them. If there is any feature common to all of them it is this rarity. It is certainly unusual to find a prenatal infection of the eyes following a normal birth. It is equally unusual to find a dilatation of the pupil persisting for months after atropin is discontinued. No less so is a high degree of edema following a normal cataract extraction. If we are rarely fortunate enough to have a successful result following a collapse of the eyeball during a cataract operation, we are also fortunate enough that it is rare to have a hemorrhage following one. Hysterical ocular manifestations in themselves are not so rare, but I think it is a little unusual to be able to cure a paralysis of ocular muscles by simple massage, and to restore sight to a complete amaurotic eye by refraction. Finally, focal infections of the eye are protean in manifestations. It is necessary to make a complete physical examination in each case where

the etiology is at all obscure, and even when this seems perfectly clear it is possible that there is some distant focus causing or contributing to the ocular lesion.

THE RELATION OF GLANDS OF INTERNAL SECRETION TO SURGERY.*

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We are well aware that the harmonious relationship of the workings of different organs and systems is essential to perfect health. This working of harmony must be anatomical and physiological. The ordinary principles of physics and mechanics are brought into play and these foundation principles of the truths formed the basis of the earlier physicians' calculations. With the advancement and development of anatomy, physiology and chemistry, associated with our knowledge by experimentation we have developed our knowledge of today. The trophic nerve impulse theory has been supplemented by the hormonal relationship theories. We have scattered throughout the body numerous ductless glands whose functions are a product of internal secretion. That the individual gland secretes such a product has been proven experimentally and we have many clinical evidences of same. The isolation of the secretion of any one gland has not been accomplished, so far as I know, although the glands themselves have been analyzed and many have been placed on the market commercially as products of thyroid, supra-renal, para-thyroid, ovaries etc. That the glands do secrete is a recognized fact, and that the glands have a reciprocal relationship has also been proven experimentally. The amount of hormonal relationship each gland has in influencing other glands of different structures, other than gland tissue, is still in a chaotic state. Analytical perusal of present day literature compels attention on the few definitely known facts.

The experimental facts prove an internal secretion for the ductless glands. Little is known of the hormonal relationship.

The more the matter of hormonal relationship is considered and the truths based on clinical facts also considered the more apparent does it become that one organ influences other organs by

means of its "something" which it elaborates by being present in the body. For example, the effect on the uterus after extirpation of both ovaries; the influence of the placenta on the breasts; the influence of the pituitary gland on growth; the influence of the pineal gland on the sexual organs. These have all been proven experimentally.

Munzer¹ assumes that all endocrine glands work in pairs, one influencing the other by activation or by inhibition. This still is waiting to be proven.

We have glands and structures throughout the body which are not classified as ductless glands but they have internal secretion and also hormonal relationship as, for example, the pancreas and placenta.

When the great number of glands and structures are considered along with their complexities and interrelationship, soon we discover how difficult are our clinical interpretations and the still greater difficulty of the application of these truths for the relief of the patient.

The thyroid gland is the gland par excellence which has awakened the minds of investigators and shown the light of discoverable truths regarding secretion. Plummer,² quoted from Kendall, has formulated the following hypothesis:

1. In thyroid disturbances the effects are due to a change in the rate of normal function.
2. The stimulating effects of thyroid activities is not felt in any particular set of organs or tissues alone but the stimulation is active throughout the body.
3. The stimulating action is intracellular.

Taking, then, the thyroid as an example can we not reason that we may have the same types of disturbances in each and every gland or organ that is fundamentally associated with the organism in its complex make-up, some more, some less, in their pathological activities, and is it not possible then to formulate any number of theories and possibilities that may produce symptoms and give us a clinical picture?

Clinically we have many types of perverted secretions. Again taking the thyroid for example we have different types of secretion producing different symptoms. We all know of different types of diseases in which patients having essentially different symptoms, are all diseases belonging to

*Read before the Englewood Branch of the Chicago Medical Society, Jan. 8, 1918.

or having their origin in the thyroid gland—typical examples being the Cold Graves disease, the exophthalmic goiter proper, the vascular non-exophthalmic thyro-toxicosis, myxedema, etc. All of this theorizing, however, is of little value clinically and from the standpoint of the man in actual practice the matter sums itself up:

1. To the truths so far as they are known, and
2. To the application of the truths to the case.

We have the following proven points about the thyroid gland:

First, we know that extirpation of the entire thyroid gland in adults leads to serious disturbances designated as cachexia strumipirva and myxedema.

Second, the experimental production of cretins by removing the thyroid in young animals and the recognition of cretinism in man which is due to hypo-thyroidism or entire absence of the thyroid secretion.

Third, that the symptoms of hypo-thyroidism can be partially controlled by thyroid administration.

Fourth, the definite relationship of thyroid physiology to diet has been demonstrated by Watson, Hunt and Bensley, and to the infectious processes by Rosenow.

However, the cause and significance of the thyroid changes in cases of thyro-toxicosis are still unsolved. From a standpoint of successful organotherapy the thyroid is our only established case.

Clinically considered we have in any gland excess secretion, diminished secretion and perverted secretion. According to our ideas in physiology, specific glands have a specific product which may be more or less in quantity, although the increase or decrease of secretion does exist, the dysfunction would of necessity mean secretion from a diseased or abnormal gland structure. The closest example of this clinically is in the thyroid. It is an easy matter to see or figure out that we have a hyperplastic gland which is excessive in its production of secretion. Again, how readily may we conceive how an active gland may be mataplastic with a perverted functional secretion with its corresponding resultant clinical symptoms. An example of dysfunction clinically, would be the thyroid where we have secretion

from pathologically different structures as adenoma or mataplastic hyperplasia, with different symptoms of thyro-toxicosis. There is no clinical analogy to this in other glands of internal secretion. I therefore, will omit the dysfunctional processes of the glands because so little is known.

We perhaps have the following glands which are considered to have an important internal secretion. We may classify them as vital and non-vital. The vital glands being the pituitary or hypophysis, the parathyroids, the adrenals and the pancreas. The non-vital being the thyroid, the thymus, the pincal, the gonads, the spleen, the mammary glands. The placenta, liver, kidney and fetus also have an internal secretion. The vital or essential glands are necessary to life, no case being on record where complete extirpation has not been followed by death. Many of these vital glands exist in pairs and as in the case of the parathyroids we have as many at times as eight. (This has reference to the extirpation of all of the glands with the same type of secretion.) The non-vital glands are of variable importance and many have been extirpated with the patient remaining in good physical health. To have a perfect physical condition however, there must be a correct harmony between all. If a critical study be made of the glands of internal secretion we find that their orchestral relationship has a definite bearing on the age of the patient. We know that the different epochs of life are accompanied by increased or decreased activity of the various glands—as for example the thymus, the gonads and the thyroids. The Mayos have even determined a common or average age limit for the different pathological forms of thyroid activity.

In reviewing the glands with special reference to their clinical bearing, both medically and surgically, the medical treatment takes the form of the organotherapy, and we all know of the practical value of the thyroid and the adrenal and pituitary products. There are also on the market the products from the testicle, the ovaries, corpus luteum, pineal and parathyroid glands. But these have no definite clinical basis as yet.

Medical treatment sums itself into the administration of gland to replace a hypo-functionating gland or the absence of the gland secretion. It may also be administered for its hormonal relationship or action. There is as yet no medical treatment for hypersecretion of any of the glands.

There is a tendency toward standardization of the products of the glands of internal secretion which helps to put organo-therapy on a more scientific footing. A uniform method of preparation must be instituted and standardization of these extracts must be discovered in order to facilitate the comparison of results of different laboratory workers and clinicians.

We have empirically considered two drugs which are of value in cases of insidious uterine and kidney hemorrhage—they are the extracts of the suprarenal and thyroid. They are of value at times when all other resources fail and we are unable to locate definitely the cause of hemorrhage.

The surgical treatment sums itself up as follows:

First, in hypo-function we resort surgically to transplantation of the gland.

Second, in hyper-function, extirpation total or partial is resorted to. Again we may use any of the operations which diminishes the secreting power of the gland, as vessel ligation, destruction of the gland tissue etc. Among all the glands of internal secretion those that come under surgical consideration are the gonads, the thyroids and para-thyroids, the spleen, adrenals, hypophysis. The remainder are still beyond the reach of the surgeon although surgery bids fair to soon take them into her fold.

We have a number of products of the glands' internal secretion which are used surgically and are of established importance as, (for example, the product of the supra-renal glands as epinephrin and pituitrin.) These have not only their medical value but also surgically we use them in our infiltration and local anesthesia as adrenaline. We also have products of the pituitary glands. By understanding its effects physiologically we have formulated an obstetrical and surgical pituitary extract. Rowland and Herzberg have brought to light that the pituitary extract of the posterior lobe influences the genitals, especially the uterine muscular. It has also been learned that the other non-striate muscle is influenced. And we have learned the value of this drug in surgical cases such as intestinal paresis, loss of tone of the bladder, and even the stimulation of the heart and vital centers. I have repeatedly seen individuals in post-operative extremis respond to the hypodermic administration of pitu-

itrin. We also have hormonal and neo-hormonal which have their place in surgery and are rapidly being adopted, their function especially affecting the intestines. Denke³ reports a series of forty animal experiments and one hundred twenty (120) observations on patients in which he claims remarkable results in its activity on paresis of the intestine. These claims are substantiated by Henke. From 10 to 20 C. C. of Hormonal is given intra-muscularly or for quick results the intravenous method may be used. This drug is also used for chronic constipation. The administration of thyroid and parathyroids, ovarian and testicular extracts may also be used when the respective organs have been extirpated.

In the treatment of tetany, which is thought to be a hypo-parathyroidism, we have two surgical methods.

First, the intravenous administration of calcium, lactate 5 per cent solution.

In Hypo-parathyroidism we have developed, in cases with tetany symptoms, a condition of "Calcium Diabetes." Therefore it is logical to administer calcium quickly and in heroic doses, to get desired results.

Second, the transplantation of the parathyroid gland.

Poole⁴ also recommends calcium lactate given by mouth in doses of 30 grains every four hours. However he states that intravenous administration appears to be much more efficient. Auto-transplantation has been shown by Halsted to be feasible and successful and there are a number of successfully reported cases. We have also the administration of the parathyroid extract by mouth. It may be of interest to know that Vassale considers eclampsia a condition of hypo-thyroidism. There is no doubt that pregnancy puts an extra strain on the parathyroid glands and in some cases this is sufficient to produce symptoms. We have surgical or post-operative tetany developing after many of our gynecological operations. According to Poole⁵ we are indebted to Kehrer of Germany and Stein of this country for bringing out this fact. It has been observed following curettage for uterine hemorrhage, incomplete abortion, ventral fixation of the uterus, plastic perineal and vaginal work, major gynecological operations such as extirpation of the uterus, ovaries, etc. Mild tetany is probably frequently

overlooked and I have found it at times as a transient symptom.

Regarding the pineal gland McCord⁶ in an extensive and carefully written article, aptly summarizes it as follows: The inference is allowable that the pineal gland is an organ of internal secretion whose functions, however, are of minor significance in the general activities of the endocrinous system.

Regarding the thymus gland as a gland of internal secretion its histological structure does not show the typical glandular structure to be found in the thyroid, the parathyroids, the anterior hypophyseal lobe, adrenal cortex and Islands of Langerhans in the pancreas. The vascular arrangement is such that there is no intimate relationship to the parenchyma. We also have no proof of its internal secretion. Anatomically it grows and develops to the onset of sexual maturity and gradually a process of involution begins. The work done by Basch,⁷ Klose and Vogt⁸ tends to prove that it has an important functional influence on bone growth and intelligence. Pappenheimer⁹ states that fundamental problems of thymus physiology remained unsolved. And the established facts which concern chiefly the normal and abnormal structure of the glands are not such as lend themselves to clinical application.

In the pancreas we have a gland whose hormonal internal secretion has especially to deal with carbo-hydrate metabolism. In no other than an indirect way does it influence us surgically.

The adrenals are divided histologically into medulla and cortex, each having its specific influence on the organism. The medullary extract derived from the medulla, along with the chromophile tissue generally, secretes a sympatho-minetic-hormone which functionates especially during emotional disturbances. The medulla is not essential to life. It is closely associated with the sympathetic system.

The cortical secretion is essential to life and its secretion (adrenin) has especial influence on blood pressure. Vincent and Biedle have done splendid work along this line. Surgically extirpation of both adrenal bodies is not permissible. We have benign and malignant tumors of this gland. The benign is represented by a hyperplasia and adenoma, whereas in the malignant we have sarcoma and one commonly called hypernephroma or Grawits' tumor, of the cortex.

These of course have only one treatment and that is surgical extirpation.

We have in the gonads many experimental proofs backed by clinical proofs of their internal secretion. One has only to watch the developmental sexual cycle of life in its entirety in both male and female. The associated organs of the ovaries and testicles, as the uterus and prostate respectively, are thought by many to have an internal secretion which influences the body. That influence of the prostate is thought by many to be true. It was at one time recommended and practiced by some to castrate for a prostatic enlargement. Again we find the late John B. Murphy¹⁰ quoting Freyer in his *Surgical Clinics*, speaking of the fine results from extirpation of the hypertrophied prostate gland. He says, "I have been so much impressed by this remarkable rejuvenescence that apart from the physical pain and mental depression caused by obstructive symptoms, it has suggested itself to my mind that the enlarged gland may pour into the system some internal secretion of a toxic or deleterious character." This apparently gives proof of the conviction of these two great clinicians that the prostate has an internal secretion.

The ovaries no doubt influence not only the uterus but the mammary glands. Loeb has brought out: first, that clinical changes occur in the ovary and secondly in the uterus and mammary glands. The ovary likewise controls the development of the mammary glands. It has been proven that not only the ovary but also its corpus luteum has an internal secretion. Referring to the present day ideas whether the ovaries should be extirpated surgically or not when border line cases are operated on, I can but refer to the conclusion expressed by Graves¹¹ who has given this very careful study. His conclusions are as follows:

First, Specific surgical menopause symptoms consist chiefly of vaso-motor disturbances in the form of hot flashes.

Second, Theoretically vaso-motor changes of the artificial menopause are due to a break in the utero ovarian functional harmony by which the physiological balance of the glands of internal secretion is upset with constant disfunctional activity.

Third, After extirpation of the uterus vaso-motor disturbances ensue with approximately

equal frequency whether the ovaries be retained in situ, totally ablated, or transplanted.

Fourth, Retention of ovarian tissue after hysterectomy is of little or no physiological value and may be productive of serious harm to the patient.

Surgeons at an earlier period were especially prone to extirpate the ovaries. Then came the period of conservatism with the desire not to unsex the patient except in direst necessity. This seems to be the most logical and conservative. Present day literature, however, tends to advocate the more general extirpation of the ovaries in our hysterectomies on account of the ovarian utero functional harmony.

Even the placenta has been proven to have an internal secretion. Joseph Halban¹² in 1905 expressed his views regarding the hypertrophy and development of the uterus and mammary glands even after castration of the individual or the animals experimented upon. This is known as Halban's theory and was formulated by him from clinical experience. Iscoveco, Hermann,¹³ Frank and Rosenbloom by employing the concentrated fat soluble fraction of placenta extracts, were able to cause enormous and rapid hyperplasia of the uterus even after castration. A similar and equally rapid hyperplasia was exerted on the breasts of rabbits when placental extract was used.

We know that in osteo-malasia there is a disturbance of the metabolism of the calcium and phosphorous. The recognized surgical procedure in this disease is the castration of the individual so affected. Does it not seem probable that the ovaries have a deleterious internal secretion in these cases?

Regarding transplantation of the gonads I believe that Lydston and Martin, both of Chicago, have done special work concerning the testicle and ovary respectively.

In splenic conditions we have largely an open and unsolved problem. That the spleen does have an internal secretion in the form of immune bodies has been established by Luckhart and Beck. Hypersplenism is thought to be the causal factors of hemolytic icterus, Henot's cirrhosis and splenic anemia. In hemolytic icterus Eppinger has brought out that the probable etiology is excessive hemolytic processes of the spleen due in all probability to pathological conditions in the spleen.

In splenic anemia we have a spleen that is destroying the erythrocytes abnormally rapidly.

Klemperer¹⁴ has noted at times a polycythemia following splenectomy for ruptured spleen. In cases then of hemolytic jaundice and splenic anemia the natural procedure is the extirpation of the spleen. Quoting Carlson¹⁵ we find in his text the following:

After an explanation of all cases so far reported, Miller concludes that "splenectomy is undoubtedly curative."

Of the spleen in pernicious anemia we know very little. Eppinger recommends splenectomy.

Krmmbaar¹⁶ reports 153 cases of splenectomy for pernicious anemia with the following results: 19.6 per cent died; 15.7 per cent no improvement; 64.7 per cent improved. Lee, Minot and Vincent¹⁷ discussed the mode of action of splenectomy as a therapeutic measure. They attribute the temporary improvement in pernicious anemia to two factors;

First, the diminution in blood destruction and

Second, to increased activity of the bone marrow.

Alfred Stengel states the course of pernicious anemia is, however, not essentially altered by splenectomy, and the operation possesses the obvious disadvantage of being able to produce stimulation but once. Transfusion on the other hand, while perhaps less constant and less active in effect, has the great advantage of being simple and permits of its stimulation being repeated. We find therefore two different types of surgical treatment for pernicious anemia which are at present both recognized by our best authorities. They are splenectomy and transfusion.

Taking then the glands of internal secretion collectively we have conditions in which great results can be accomplished.

When correct judgment is supplemented by good surgery the results are very gratifying not only to the patient but to the profession. The surgery on the thyroids, parathyroids and gonads, including the entire male and female organs and spleen should be a source of continuous inspiration.

Who can forecast the future surgery on many of the remaining glands? There have been surgical roots established for work on the hypophysis by Kanaval, MacArthur and Frazier. However, this work is as yet unsatisfactory. So long as

organo-therapy remains in its present state the hyper-function of the glands of internal secretion remains in the hands of the surgeon.

Let us look forward to the harmonious workings of the experimental laboratory worker, clinician and surgeon to the ultimate solution of the problems of the glands of internal secretion.

BIBLIOGRAPHY

1. A. Munzer: Die Grenzen der Organotherapie, Berlin klin. Wochens., 1914, LI.
2. Plummer: Prog. Med., March, 1917, p. 73.
3. Denke: Deutsch Ztsch. f. Chir., Bd. 132, p. 37; Zentrabl., 137.
4. E. H. Poole: Surg. Gyn. & Obs., Sept., 1917, p. 263.
5. Ibidem.
6. C. P. McCord: Surg. Gyn. & Obs., Sept., 1917.
7. Basch: Ztsch. f. Ext. Path Ther., 1905, Vol. II.
8. Klose & Vogt: Beit. z. klin. Chir., 1910, LXIX, No. 1.
9. Pappenheimer: Surg., Gyn. & Obs., Sept., 1917.
10. Murphy's Clinics: Oct., 1916, p. 942.
11. N. P. Graves: Surg., Gyn. & Obs., Sept., 1917, p. 323.
12. J. Halban: Arch. f. Gynaek., 1905, LXXV, 353.
13. E. Hermann: Monatsch. f. Geburtsh & Gyn., 1915, XLI, I.
- 14 and 16. Klemperer & Krumbarr: Prog. Med., June, 1917, p. 292.
15. A. J. Carison: Therap. of Int. Med., Forcheimer's supplement, p. 156.
17. Lee, Minot & Vincent: Jour. A. M. A., 1916, LXVII, 719.

TRIPLE WOUNDS OF THE STOMACH FROM A SINGLE INTACT BULLET

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Many interesting reports are given of the effect of single bullets in all parts of the body and no doubt the literature of the near future will afford many more opportunities for studying the effects of bullets in the present war by medical officers of the armies of all the nations now engaged. This is particularly true in times of war, but some few instances in civil life seem worthy of consideration simply from the circumstances attendant.

The first case, and the only one so far reported in the literature of more than two wounds of the stomach, is that of Dr. L. A. Woodson, described in the *Nashville Journal of Medicine and Surgery* in June, 1896, which occurred in his own practice. The patient, a negro, was shot with a 38 caliber bullet, which entered the left side below the apex of the heart, and was operated upon by Dr. Woodson's son the following morning, about 16 hours after the patient was shot.

At the operation it was found that the bullet had entered the cardia end of the stomach and in doing so had severed the gastro-epiploica-sinister artery which was bleeding quite freely.

The wound in the stomach was sewed up with silk, using the Lembert suture, then the stomach was turned over to the right as far as possible and two more openings were discovered, one to the right of the esophageal opening and another about an inch long in the pyloric end of the stomach. All were sutured and a large amount of blood evacuated from the abdominal cavity. Prompt recovery took place. There is no reference to the contents of the stomach in Dr. Woodson's case, but the presumption is, that it was empty, or nearly so, as the patient was attacked near midnight and it is quite easy to conceive how more than two wounds are possible when the stomach is not distended.

I will now report a case which occurred in July, 1913. It was that of a man about sixty years of age who was shot in the back, about half an hour after he had eaten a hearty meal. The bullet divided the right ureter after entering the pelvis of the kidney; then made three perforations of the right portion of the stomach about two inches to the left of the pylorus—one in the posterior wall, one in the anterior just opposite, and another on the smaller curvature just above the line of the other two—this last one was overlooked and the patient died in twenty hours. This was a coroner's case and the writer was informed of the third opening by the coroner's physician, and naturally was much chagrined at his failure, in overlooking the perforation on the smaller curvature of the stomach.

I felt that I had done my duty in closing both openings in the anterior and posterior walls, and had considerable difficulty in controlling the hemorrhage from the kidney region—and I thought I had done all that was necessary: However, when Dr. Reinhardt told me of the cause of death, I was curious to reason out why the smaller curvature was struck by a bullet which evidently went straight through the stomach from behind forward, when that viscus was full of food.

I feel that all I need to do is to remind those of you who witnessed Dr. L. Gregory Cole's demonstration in this city a few years ago of moving pictures of the stomach, that there are usually three contraction waves which can be seen on the screen at the same time; and each wave as it passes toward the pylorus becomes quite deep, thus making it possible for a bullet

to graze or even perforate the tip of an inverted crest as it passed through.

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THE RANGE OF THE PHYSIOLOGICAL LIFE OF THE TONSIL.*

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The tonsil is found not only in man, but also in animals; however, in some animals it is entirely absent. It is found in its most elementary form, perhaps, in the rabbit, where it bears a close resemblance to a large lingual follicular gland. If we take the tonsil of a rabbit as a type of the simple tonsillar gland, that of man may be considered as a multiplication of these simple elements, in numbers varying from eight to eighteen or twenty. The gross structure of the tonsil represents a compound lymphatic gland of which the elemental parts bear a close resemblance both in man and in animals to the lymph-follicles found at the base of the tongue, all of which are embedded within adenoid tissue and surrounded by a fibrous capsule.

The tonsils make their appearance during the fourth month of embryonic life. At birth they appear as two small masses, snugly nested between the pillars of the fauces. As the child continues to grow, the tonsils increase in size, commensurate with the growth of the other organs and tissues in their respective location. By the time they arrive at their maturity, which usually is about puberty, they appear as two ovoid organs, measuring about twenty millimeters in their vertical axis, and about thirteen millimeters in their greatest transverse diameter. Their inner or oral surface in health does not extend beyond the margins of the anterior and the posterior pillars.

The physiological life of many tissues of the organism is not coextensive with the life of the individual. During life all of the tissues of the body are constantly being changed either molecularly, or in mass, and yet the general size, shape and form of the cell or fiber is unaltered. The tonsils are no exception to this provision of nature. Their constant presence, the range of their

physiological life, the period of their normal growth, maximum, and natural decline, still afford an interesting field for study.

The tonsils are composed of two dissimilar tissues, namely,—a reduplication of the oral mucous membrane, and the so-called adenoid tissue. The crypts contain a yellowish substance, consisting of fat molecules, detached pavement epithelium, lymph corpuscles, molecular granules and cholesterin-crystals. Their mucous secretion does not seem to differ essentially from the secretion of other mucous surfaces, except that the secretion is opalescent, and gives the mixed saliva an opalescent appearance; at least this is true of the mucus secreted by the tonsils of animals. The tonsils secrete mucus, perhaps, throughout the life of the individual, long after they have become atrophied and appear quite negligible.

The prevailing opinion seems to be that the tonsils are compound lymphatic glands. Their chief value is in the protection of the child from infection. They are the great immunizing factors in childhood, and reach the height of their functional activity by the sixth or seventh year, after which time, children become relatively immune from bacterial invasion in respiratory diseases. That they have a work or function to perform in the early years of life, is shown not infrequently, by the hypertrophy attending them, which is evidence of their overwork.

The range of the physiological life of the tonsils comprises the years of infancy and childhood. They are temporary organs. Their life-cycle begins at birth and ends with the advent of puberty. The question naturally arises: is this feature of their life history significant, or is it simply coincidental? The fact that the tonsils begin to wane on or about the arrival of puberty might suggest that their function is in some way connected with this phenomenon of life, notwithstanding observation so far, has not shown any effect on the sexual development of the child, after the removal of the tonsils.

The range of the physiological life of the tonsils, it would seem, depends upon two factors or conditions: First, the rapid metabolism of childhood, and second, the supply or amount of lymphoid tissue of the body.

The rapid metabolism of infancy and childhood suggests a reason for the abundant supply

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of the lymphoid tissue in the throat at this period of life. The metabolism is both an anabolism and a katabolism, that is, assimilative and destructive. Childhood requires an amount of energy proportionately far in excess of the needs of adult life, corresponding not only to the needs of the growth of the tissue, but to be consumed in the manufacture of the amorphous proteids, fats, carbohydrates and salts into living tissue; hence we find the heart-beat in infancy about double that of old age. The blood makes the whole circuit of the body in twelve seconds instead of twenty-two seconds, the time required in the adult. The respiration is more frequent and the absorption of oxygen is relatively more active than the production of carbonic acid. The fire of life in infancy and childhood burns more briskly, to maintain the normal bodily temperature which is slightly greater than that of the adult.

Associated with these destructive activities of tissue transformation, and chemical change in the cells, is the constructive work in the outline of the frame and the living sculptured organs. The lymphatic glands are greatly developed and are relatively larger in size; and the quantity of lymph is proportionately greater than in the later years of life. The changes are more active in these years. The organism is hastening on through its first epoch, that of dentition, to the next important phase of life, known as puberty when important changes also occur with an increase of growth and lymphatic activities in organs hitherto latent and dormant.

In the later years of childhood the metabolism becomes less active, the pulse rate decreases, the respiration is less frequent, the nervous system becomes more stable, the relative amount of the urinary excreta is diminished, and the body temperature shows a slight decline. It is in this period of childhood that we notice the beginning of the retrogressive metamorphosis of the tonsils, which further suggests that the metabolism of the child is the gauge by which we measure the functional activity of the tonsils.

In the early years of life the differentiation of tissue and tissue change is very great. The rapid changes in the transformation of tissue, occasions not only an increase in the vascular supply to the growing organisms but also an increase of lymph

in the lymphatic circulation. The lymph glands of the rapidly developing organs are no less active in their work of elaboration. But with the advent of puberty there is a decline in the active metabolism, and the excessive expenditure of energy in growth. The burden heretofore imposed on the lymphatic system is lessened and the tonsils begin to show signs of retrogression, in which they pass from a higher and more complex state of organization to that of a lower; the tendency being toward atrophy, which shows that their physiological life is nearing the end.

The other factor or element which determines the range of the physiological life of the tonsils is the relative amount of lymphoid tissue of the body and the time of its activity. All of the organs of the body are outlined in intrauterine life, and, to a certain extent, are developed. Nearly all of the organs make rapid growth and development after birth, the exception being the reproductive organs. In childhood they grow but slowly, and are functionally incapacitated until the age of puberty, when they are rapidly developed in size and function. Their lymphatics must bear the same ratio of increase and functional capacity, to meet the needs of the metabolism of these organs at this particular time. In this way there is a natural increase of lymphoid tissue of the body in both the glands and vessels.

The lymphatic system represents a chain of glands connected by vessels; some of the glands are arranged in groups, among the more prominent may be mentioned the inguinal, the mesenteric, the axillary, and the glands in the neck. The full development and functional activity of these glands are not simultaneous. The superficial inguinal glands which receive vessels from the reproductive organs of both sexes do not attain their full size and function until puberty; then they are of large size, numbering from eight to ten. The axillary glands are also of large size at puberty, numbering from ten to twelve; they receive the lymph from the front of the chest, and from the important glands, chiefly concerned in reproduction, namely,—the mammary glands. There are, also, many other lymphatic glands of the reproductive organs which increase in size and function at the advent of puberty.

With this increment of lymphoid tissue and greater functional activity, these lymphatic

glands, which during childhood have remained more or less quiescent, at this period of life, like the organs to which they are connected, take on a more vigorous and energetic action. The work of other lymphatic glands is thereby relieved. The tonsils, however burdensome has been their task, in the early years when these glands were practically inactive, now assume the role of old age and seemingly, retire from the busy work of active life.

In support of the view herewith presented, regarding the range of the physiological life of the tonsil, the observations of Hugh T. Ashby on the cause of enlarged tonsils, which, in his opinion is due to a deficiency of lymphoid tissue in childhood, would seem to confirm at least one of the conclusions at which we have arrived, namely,—that when lymphatic tissue later in life, that is, at puberty, is more abundantly supplied, the tonsils reach the limit of their life-cycle and gradually atrophy. Dr. Ashby's analysis of a large number of cases is so interesting that we give his views printed in the "Practical Medical Series" (Eye, Ear, Nose and Throat), Vol. III, 1914.

Hugh T. Ashby, in writing on "The Cause of Enlarged Tonsils and Adenoids in Children and Their Treatment with Lymph Node Extract," says: Many theories have been put forward as to the cause of enlarged tonsils and adenoids, but it is possible to rule out all of these ideas conclusively. The following analysis of three thousand cases accounts for this new theory: Tonsils and adenoids enlarge in order to augment the lymphoid tissue of the body. In every fetus examined microscopically after the age of six months adenoid tissue was present. Ashby believes that every child is born with adenoid tissue. In infancy and childhood the lymphatic structures are at their maximum size and it is one of the functions of the lymphatic tissue to form the lymphocytes. Now, it is a peculiar fact that children with enlarged tonsils and adenoids have rather a diminution of lymphocytes in the blood, and there is also an increase in the total number of lymphocytes. For this reason it looks as though the enlargement of the tonsils and adenoids were an attempt on the part of nature to supply the deficiency in the other lymphoid tissue of the body. At the age when enlarged tonsils and adenoids are commonest, two to five years, the lymphocytes are normally beginning to decrease from the high percentage found in infants to the adult standard, and the thymus is also decreasing in size. Ashby thinks these two facts support the view that the

adenoids and tonsils are an attempt to augment the lymphoid tissue of the body. If adenoids and tonsils are removed, before the age of about five years, they are liable to recur. If we could supply these children with lymphoid tissue artificially there would be no need for the enlarged tonsil and adenoid, and in consequence they would decrease in size, and on these lines Ashby has been working. Up to the present time he has treated about thirty cases of enlarged tonsils and adenoids with a lymphatic gland extract, giving five grains three times a day. No bad effects have been observed, and nearly all the children have improved in a very satisfactory manner.

The tonsils are organs of childhood; and, like the temporary teeth, serve their purpose in the early years of life. Wright, of Boston, has shown the functional relationship existing between the teeth and the tonsils. His views seem to confirm our conclusions, that the range of the physiological life of the tonsils is dependent upon the active metabolism of childhood. In one hundred and fifty cases observed by him where enlarged tonsils existed and operative procedure was deferred, after the eruption of the molars of the twelfth year period, that is, when the dentition was completely accomplished, both the cervical glands and the tonsils receded without treatment or operation. The dentition of childhood is accompanied by rapid tissue change, and active tissue transformation; the metabolism is increased to the point of irritation and discomfort of these organs, but after this period is past, as the child approaches puberty, the activity of the tonsils is abated, and its physiological life begins to decline.

The early years of life are marked by a rapid growth of organs, and also by a differentiating growth or development. There are stages of life, or periods of life, that make up the life-cycle. In infancy and childhood, indeed from birth and even in early intrauterine life, the increment of growth progressively diminishes. However, some organs, notably the reproductive organs make most of their growth with an increasing increment at about puberty. In the years of childhood the tonsils reach their maturity and this is accomplished when the metabolism of life is in its greatest state of activity, when the period of childhood begins to end. With this, the rapid metabolism becomes less energetic and active, the temporary organs of childhood such as the tonsils the first dentition and the thymus gland, likewise go into a state of decline.

Again, in the years of childhood when there seems to be a deficiency in the lymphoid tissue of the body, the tonsils, during the first epoch of life, grow rapidly and reach their maximum in both size and function. But when the second epoch of life is reached, that of puberty, the increasing increment of organic growth and of differentiating growth of the reproductive organs, occasion an increase and an equalization of lymphoid tissue and function in the body. The further work of the tonsils comes to an end and they hasten on to a state of atrophy.

Children in whom we find hypertrophy of the faucial tonsils and of the pharyngeal tonsil present a series of symptoms that make up a picture familiar to all. But the interference with nasal respiration due to adenoid vegetations and enlarged tonsils, perhaps, is not due wholly to the appearance we so frequently observe. Such children, as children, do not show marked sexual characteristics. The boy does not present the type of a physically manly boy in many instances. The girl is not distinctively feminine in her appearance. In both cases they are strongly neutral. The sex qualities are not pronounced. The boy is not necessarily effeminate, nor the girl particularly more childlike than her years should indicate; both are weak in the expression of early masculine and feminine characteristics. They are lacking in appearance of the early blushes of the dawn of approaching manhood and womanhood.

Infancy has its beginning and its end. Puberty marks the period of the beginning of adolescence which is continued on into adult life. These periods stand at the extremes of child life. The range of the physiological life of the tonsil lies between these two extremes. As childhood vanishes and finally fades away, when young manhood and young womanhood is ushered in, the tonsils, the organs of childhood, having served their purpose in these early growing years of life, now, as the fires of an active metabolism begin to smoulder somewhat lower, and the vigor of a new energy and new life is taken up which relieves them of further service, they too vanish and fade away leaving only fragmentary evidence of their complement to life, in former years.

Griesheim Building.

WHY ARE THE TONSILS AND LYMPHATICS OF THE NOSE AND THROAT RESPONSIBLE FOR SO MANY SYSTEMIC DISEASES?*

R. H. GOOD, M. D.,
CHICAGO.

While there is very little in this paper but what has been published before, I believe it will be worth a few minutes of our time to consider some of the points of special interest to the general practitioner.

The lymphatic system in the nose and throat is exposed to the outside world through its crypts, in such a way that it is greatly in danger of bacterial invasion. The question naturally arises—Why is it that nature should thus expose the body to danger? The tonsils are so located that everything we eat and drink passes over them. The air laden with dust and bacteria passes over the tonsils, whether we breathe by nose or by mouth. Bacteria from discharging abscesses about the teeth find their way to the tonsils. The discharges from the sinuses of the nose find their way to the adenoids and tonsils. So also all expectorations from the lungs pass over the tonsils, as well as the contents of the stomach in the act of vomiting.

Surely if it was necessary to expose the lymphatic system to such great danger there must be a corresponding greater compensation to the system for being thus endangered. In other words, whatever the function of the tonsils and lymphatics of the nose and throat, it must be a very important one to make it necessary to thus expose the lymphatic system.

Embryologically the tonsils and adenoids do not develop until the latter half of fetal life, so that it cannot be that these structures have a vital embryological function. At birth the tonsils and adenoids are fully developed and prepared to perform their function whatever it may be.

When tonsils and adenoids are removed during the second or third year of life, the child continues to develop, and so far as we know lacks nothing in the human economy. The crypts of the tonsils are lined with squamous epithelium and there is no submucosa of connective tissue between it and the lymph follicles.

The peritonsillar mucous glands are in the

*Read before the Aux Plains Medical Society, March 22, 1918.

capsule of the tonsils. The mucus from these glands empties into the crypts of the tonsils through their ducts which terminate at the cryptal epithelial and finally passes through the stomata in the crypt epithelium. There is, therefore, always mucus in the crypts to which I will refer later.

Stohr demonstrated that there were, in the crypts, many leucocytes or phagocytes carrying bacteria and dust particles from the tonsil into the crypts. In other words, when bacteria and dust particles penetrate the crypt epithelium with the lymph stream the phagocytes tackle these intruders and carry them out into the crypt again. There is a constant stream of lymph going from the surface of the tonsil into the tonsil through its cryptal epithelium.

Jonathan Wright blew carmine granules into the nose and learned that in a very short time he could find these granules in the substance of the tonsils. He also found that bacteria nearly all remained in the crypts instead of going into the tonsil as did the carmine granules. He thought this was due to a special selective property of the epithelial cells, but I believe that the bacteria make this selection, preferring to remain in the crypts and live on mucus, epithelial debris and foodstuffs. We are, therefore, almost forced to the conclusion that the crypts are purposely made for bacteria to grow in them and that they are real culture tubes. The leucocytes make it their business to prevent bacteria from entering the tonsil. There is, however, no provision whatever to prevent the toxins of these bacteria following the lymph stream into the tonsils and from there into the general circulation.

As soon as the child is born it is subjected to hordes of bacteria which find their way to the lymphatics of the nose and throat, lodging in the various crypts. They feast on the mucus therein and multiply. Their excreta or toxins are carried into the circulation creating antibodies which cause the leucocytes to have an affinity for the bacteria against which the body has been immunized and so enable them to destroy these bacteria. When a washed leucocyte and a germ are placed together in sterile water there is no tendency for the leucocyte to attack the germ, but when placed in blood serum which is immunized against this germ, the leucocyte tackles it.

Some years ago Dr. Orndoff sectioned 400 tonsils for me, making a careful study of them and largely through his work, we came to the conclusion that early immunization of the system might be the most important function of the tonsil.

Having now a picture in mind of what goes on in a normal tonsil, so far as allowing toxins to enter the circulation, we can more readily understand what may take place when a tonsil or an adenoid becomes diseased. Imagine a suppurative tonsillitis with one or more crypts filled with pus or a submerged caseous tonsil with caseous plugs in the openings of the crypts, or an acute follicular tonsillitis, which will by pressure force the bacteria and toxins through the crypt epithelium into the tonsil. The infection may be pushed through the stomata of the cryptic epithelium into the mucous ducts and back into the peritonsillar mucous glands, forming an abscess in the tonsil which may later rupture into the peritonsillar lymph space, causing a peritonsillar abscess. Text-books seldom refer to acute tonsillitis as a cause of peritonsillar abscess, but in my experience I find that frequently a peritonsillar abscess had been preceded a week or two by an acute tonsillitis. I believe that in these cases the infection finds its way to the peritonsillar space by way of the peritonsillar mucous glands.

Tonsils which are only partly removed cause much more systemic disturbances than before they were operated on, because the cut surface has a tendency to contract like scar tissue and thereby constrict the crypt orifice causing retention pockets. Tonsils which have been injured by frequent tonsillitis, ulceration, plugged crypts, diphtheria, scarlet fever or syphilis, as well as peritonsillar abscess, are nearly always chronic foci of infection. The toxins from the tonsils pass into the anterior deep cervical glands of the neck while the toxins from the retropharyngeal lymphatics pass into the posterior and anterior cervical glands of the neck so that inflammation of the adenoids or pharynx causes enlargement of the cervical glands just back of the sternocleidomastoid muscle and may occasionally cause enlargement of the anterior chain. Tonsils drain almost entirely into the anterior deep cervical glands. Enlargement of the lymphatic gland located just outside and below the tonsil, often called the tonsillar lymphatic gland, is usually

due to disease of the tonsil, or infection coming through the tonsil.

Grober injected living dogs' tonsils with Chinese black paint and on postmortem found the ink in the tonsils and cervical glands as well as the supraclavicular, bronchial cardiac and mediastinal glands. The lymph from the nose and throat passes through the deep cervical glands communicating with all the lymph glands mentioned above and finally enters the thoracic duct which empties into the venous circulation, where it is first taken to the heart and then to the lungs. Knowing these facts one can readily understand why there are so many systemic disorders caused by the diseases of the nose and throat.

From the nose and throat we have entering directly into the circulation, bacterial toxins, bacteria themselves or an actual pyemia depending upon the nature and severity of the inflammation in these parts. Toxins and even bacteria will thus find their way into every part of the body and may produce almost every conceivable form of infection.

Dr. Geo. B. Wood in his article on tonsillar infection in the hogs, says:

The anthrax bacillus penetrates through the cryptal and not the surface epithelium. It probably always gains access to the parenchyma of the tonsil by passing through the living unaltered cryptal epithelium and having gained access to the superficial layers of this epithelium it tends to multiply in the follicular tissue. The rapidity of the invasion is influenced both by the virulence of the organism and by the susceptibility of the individual animal. In some of the sections examined the bacilli were found penetrating the blood vessel walls and a few seen in the blood current. It is now known that the streptococci or other germs can enter the blood through the medium of the tonsils and attack the joints, the heart and the kidneys.

Davis obtained pure cultures of streptococcus viridans in the crypts of 40 per cent of the tonsils removed from patients with endocarditis which was supposedly of tonsillar origin. I am of the opinion that enucleation of tonsils under local anesthesia for endocarditis is better treatment than all medical treatments combined.

Rosenow has produced appendicitis experimentally in animals by injecting them with tonsillar extracts and has demonstrated forms of streptococci which have a specific affinity for certain organs.

Wood of Philadelphia applied tubercular bacilli into the throats of pigs and produced tuberculosis of the tonsils followed by tubercular cervical adenitis and pulmonary tuberculosis.

Rapid enlargement of the cervical glands is not of tubercular origin. I am of the opinion that tubercular glands of the neck are more frequently secondary than primary infections. In other words, enlarged cervical glands due to acute infections in the throat become less resistant and may succumb to tubercular infection. The tubercle bacillus, having a firm capsule, may pass through the tonsil to the cervical glands without disturbing the tonsils. It may pass through all the cervical glands and enter into the general circulation without disturbing the glands. The majority of tubercular glands of the neck are bovine tuberculosis and it is surprising how few cases develop into pulmonary tuberculosis. When the cervical glands remain enlarged bilaterally under treatment the chances are they are tubercular unless they are caused by syphilis, Hodgkin's disease, blood diseases or tumor growth.

The proper enucleation of the tonsils has greatly lessened the operations on the glands of the neck. About 35 per cent of the enlarged glands disappear, 55 per cent diminish in size to almost normal, and 10 per cent remain enlarged after proper removal of adenoids and tonsils. The latter are usually tubercular and should be operated on.

That acute inflammatory rheumatism, nephritis, endocarditis, appendicitis, osteomyelitis, meningitis, ulcer of the stomach, liver abscess, jaundice, etc., may be caused by acute tonsillitis is well known.

Dawson is of the opinion that the tonsil is the atrium of infection in scarlet fever. I had the misfortune of removing the tonsils in two cases at the beginning of scarlet fever and to my surprise the patients passed through the disease without enlargement of the cervical glands and only a trace of albumin in the urine, whereas, other members in the family with the tonsils not removed had severe adenitis and considerable albumin in urine. I am convinced that diphtheria is contracted much less frequently in individuals without tonsils and adenoids. There are about 200 children at the Lake Bluff Orphanage; about one-half have had their tonsils and adenoids removed by myself. In the recent epi-

demic of diphtheria, twenty children contracted this disease and not one of these were without tonsils.

Westenhoeffer found 29 cases of cerebrospinal meningitis in which the autopsy revealed pus in the tonsils. The army officers prescribe nasal sprays of argyrol to prevent cerebrospinal meningitis.

Thiesen reports seven cases of acute thyroiditis following tonsillitis. I have only occasionally observed a vascular thyroid diminish in size after enucleation of the tonsils.

I believe that iritis and phlyctenular conjunctivitis are sometimes due to throat infections.

Kocher says acute osteomyelitis is occasionally found following acute tonsillitis.

Rosenow claims that ulcer of the stomach may result from diseased tonsils.

There is little doubt in my mind but that muscular rheumatism and neuritis are frequently caused by diseased conditions of adenoids and tonsils.

Chorea is probably due to toxins and may be associated with the nose and throat. Chorea is, however, not greatly benefited by the removal of tonsils and I would advise not to operate during the acute symptoms and especially not under a general anesthesia.

Rosenow states that anterior poliomyelitis is very probably caused by a micrococcus. Mathews in September, 1916, isolated a gram positive micrococcus from the brain and cord of a fatal case of poliomyelitis. Nuzum has found this organism in the tonsil in 90 per cent of the cases. Flexner and Noguchi produced poliomyelitis in monkeys by injecting the filterable virus. Rosenow by making intracerebral injections with the same virus has produced paralysis in guinea pigs, rabbits, dogs and monkeys. He produced the same results by injecting an emulsion of pus expressed from the tonsils, also by an emulsion of extirpated tonsils and brain. The gram positive micrococcus is also found in the nasal secretions so that it is practically certain that the nose and throat are the infection atrium of poliomyelitis.

Even though as yet we know so little about this subject, I believe that no advancement in the entire field of medicine for the betterment of humanity during the past ten years, can be compared to the benefits derived from the study of

focal infections as championed by Doctors Billings and Rosenow.

25 East Washington street.

UNCLE SAM'S NOTE

When the Government sells bonds, it takes no money out of the country. What it does is ask the farmer, the manufacturer and the laborer to sell their products on time and it gives an interest bearing note in advance, until you and these other producers can make the supplies to conduct the war. The War Department can shoot houses and lots and grain at the Germans. It asks the producers to grant it the credit first and then get busy and make the supplies it needs and when your Government has on its hands the biggest war the world ever knew there is no time for trifling. Buy bonds and see Uncle Sam and yourself through.

WHEN THE WAR IS OVER

AS MIKE SEES IT

When the war is over, laddies, just take a tip from me,
There'll be no German submarines a-diving through
the sea;
For in Fatherland is Kaiser Bill, the guy we're going
to lick,
We will have a brand new Kaiser, and the same will
be a "Mick."

We'll change the song, "Der Wacht am Rhine" into
an Irish reel,
And make the Dutchman dance it if so inclined we
feel,
For the Police Forces in Berlin will be "Micks" from
the County Clare,
When we put an Irish Kaiser in the Palace over there.
Shure in every German Parkway you'll find a sweet
Colleen,
And in the fields of waving sauer kraut we'll plant a
shamrock green,
No liverwurst or sausage when the Dutchmen drink
the suds;
But he'll get corned beef and cabbage and good old
Irish spuds.

The heathen's guns and gas bombs, we'll throw them
all away,
And make them use Shillalahs, or bricks of Irish clay:
They'll wear no Iron Crosses, shure 'tis Shamrocks
they will wear,
When we put an Irish Kaiser in the Palace over there.

—Anonymous.

Englewood Branch, news letter.

ILLINOIS MEDICAL JOURNAL

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MAY, 1918

Editorial

THE SPRINGFIELD MEETING.

Again we ask you to come to the annual meeting which will be held in Springfield May 21, 22 and 23. If you will read the program for that meeting, published on another page, you will admit it will be well worth attending. No doubt many members will be missed this year on account of the war, but those who can attend should be on hand. Springfield has always well entertained the Medical Society, and will do so this year. The officers of the Society hope to have a good attendance and indications now are that the meeting will be a success.

HEALTH INSURANCE ACTIVITIES.

We are informed that in several states, committees appointed by the legislatures or the gov-

ernors, are at work investigating compulsory health insurance questions. We hope these committees have been appointed with the idea that they will do a real service and carry on investigations worthy of the name. We are informed, however, that committees from some states were appointed in such manner that their reports favorable to compulsory health insurance are a foregone conclusion, and that such reports are not likely to contain anything of real value.

The whole question of compulsory health insurance is so much opposed to a true American spirit that it is difficult to see why a real American citizen would favor anything so paternalistic. Autocracy and paternalism are very closely related. The entire system of compulsory health insurance was borrowed from Germany, where it is a failure, if we are to believe reports from those well able to analyze results. We do not believe there exists in this country a necessity for compulsory insurance, and did there exist some reason for it, we would still oppose it as paternalistic and as an agent engendering pauperism. We in this country should encourage thrift.

There are three classes of people vitally interested in this question—the employe, the employer and the physician. The state might be called the fourth party, as in all the proposed bills we have seen, the state is to pay a certain per cent of the insurance.

When all the facts are collected and these committees are ready to make their final reports to the governors or the legislatures, the committees should remember that the entire question has been agitated by a class of individuals, who consider themselves public benefactors in the guise of “welfare workers,” and who are not producers, employers or physicians, but who think they are appointed to regulate the homes and lives of those who will tolerate their interference until finally they get some vague plan financed or get some legislative body to adopt their theories.

The committees should also remember in making their reports that this measure, however written, will not do away with any part of the usual charity needed, but that it will tend to pauperize and make more charity indispensable.

They should and will remember that this insurance is only operable when the individual is employed, and that it will in no way affect the

army of unemployed, who are the ones that cannot care for themselves when sick.

They should remember that such insurance measures will increase the number of unemployed. An employer of labor under such compulsory measures will not employ people above middle age or those who are not physically fit specimens. Those individuals who are most likely to become sick will not find employment.

Before making their final reports these committees should investigate—make a survey of—the amount of money paid for alcoholic beverages by those who cannot care for themselves during illness. The laboring man pays an enormous saloon bill in this country, and many of them cannot afford it. Why not assure the laborer that his alcohol will be furnished him?

But why go further? The whole question is un-American, and no one really wants it except the welfare worker.

Illinois State Medical Society

SIXTY-EIGHTH ANNUAL MEETING,
SPRINGFIELD, MAY 21, 22, 23, 1918.

ORDER OF PROCEEDINGS.

Registration office and headquarters in the Exhibit Hall in the basement of the Masonic Temple.

First Day—Tuesday Morning.

9:00—Ear, Nose and Throat Clinics, St. John's Hospital.

12:00—Luncheon St. John's Hospital.

First Day—Tuesday Afternoon.

1:00—Eye Clinic, St. John's Hospital.

2:30—Call to order of the Society in general session, by the president, Elmer B. Coolley of Danville. Blue Lodge Room of Masonic Temple.

Report of the chairman of Committee on Arrangements, A. C. Baxter, Springfield.

3:00—Call to order of secretaries' conference by the president, Flint Bondurant of Cairo. Blue Lodge Room, Masonic Temple.

4:00—Meeting of Committee on Credentials for House of Delegates. Second floor, Masonic Temple.

First Day—Tuesday Evening.

6:30—Banquet for Section on Eye, Ear, Nose and Throat. Leland Hotel. Plates \$2.50.

8:00—Call to order of the House of Delegates by the president, Elmer B. Coolley. Blue Lodge Room, Masonic Temple.

Second Day—Wednesday Morning.

9:00—Call to order of the sections for the reading and discussion of the papers of the program.

Sections 1 and 2, Commandery Room, third floor, Masonic Temple.

Section on Public Health and Hygiene, Blue Lodge Room, Masonic Temple.

Section on Eye, Ear, Nose and Throat, Sun Parlor, Leland Hotel.

12:00—Adjournment for luncheon.

12:00—Mid-day Luncheon Club. Luncheon at St. Nicholas Hotel. Address by His Excellency Senor Don Ignacio Calderon, Minister of Bolivia to the United States.

Second Day—Wednesday Afternoon.

2:00—Call to order of the Society in general session by the first vice-president, E. P. Sloan of Bloomington. Commandery Room, Masonic Temple.

President's address—Elmer B. Coolley, Danville.

Oration on Military Medicine and Surgery, "The Call of the Service."—Col. Henry I. Raymond, M. C., U. S. Army. Report of Centennial Committee—Carl E. Black, Jacksonville.

Oration, "Winning the War."—Franklin Martin, Chicago.

2:45—Reconvening of the sections.

Oration on Surgery. "Surgery of the War," Wm. O'Neill Sherman, Pittsburgh, Pa.

Second Day—Wednesday Evening.

8:00—Public meeting.

Moving pictures relative to War and Medicine.

Address by well-known French medical officer.

Dance and refreshments.

Third Day—Thursday Morning.

9:00—Call to order of Sections 1 and 2 for the continuation of the program.

11:00—Oration on Medicine—C. F. Hoover, Cleveland, Ohio.

Third Day—Thursday Afternoon.

1:30—Reconvening of the sections.

2:30—Call to order in general session to receive the report of the House of Delegates.

Introduction of the president-elect.

5:00—Final adjournment.

OFFICIAL PROGRAM.

SECTION ONE.

C. Martin Wood, Chairman.....Decatur
S. R. Slaymaker, Secretary.....Chicago

SECTION TWO.

John S. Nagel, Chairman.....Chicago
H. A. Millard, Secretary.....Minonk

Wednesday, May 22—9 A. M.

1. Nephritis: Diagnosis, Treatment and Prognosis, showing the inadequacy of our physical and pathological interpretation of clinical symptoms—M. Stealy, Freeport.
2. Hypertrophic Pyloric Stenosis—C. Wallace Poorman, Oak Park.
Discussion—J. W. VanDerslice, Oak Park.
J. V. Fowler, Chicago.
3. Diagnosis and Treatment of Pyloric Stenosis. Demonstration by movie film.—H. M. Orr, La Salle.
4. The Menopause from the Standpoint of Mental Disorders. Clinical Reports. Lantern.—Frank P. Norbury, Springfield.
5. A Plea for the Early Diagnosis and Treatment of Tuberculosis of the Kidney—Daniel N. Eisendrath, Chicago.
Discussion—A. D. Bevan, Chicago.
F. Buckmaster, Effingham.
6. Surgical Treatment of Kidney Tuberculosis.—Herman L. Kretschmer, Chicago.
Discussion—A. D. Bevan, Chicago.
L. E. Schmidt, Chicago.
7. Treatment of Mercurial Poisoning—Bernard Fantus, Chicago.
Adjournment.

Wednesday, May 22, 1918—2 P. M.

8. President's Address—Elmer B. Coolley, Danville.
9. Oration on Military Medicine and Surgery. "The Call of the Service."—Col. Henry I. Raymond, M. C., U. S. Army, Chicago.
10. Oration on Surgery. "Surgery of the War"—William O'Neill Sherman, Pittsburgh.
- 10a. Oration, "Winning the War," Franklin Martin, Chicago.
11. Parotitis as a Sequela of Abdominal Operations.—C. U. Collins, Peoria.
12. Fractures of the Lower End of the Radius—S. M. Miller, Peoria.
13. Some Points of Interest for the Interest in X-Ray Interpretation.—Damon A. Brown, Peoria.
14. The Exophthalmic Goiter.—E. P. Sloan, Bloomington.
15. A Clinical Study of Lobar Pneumonia with Special Reference to Prognosis—Edward L. Heintz, Chicago.

Thursday, May 23, 1918—9 A. M.

16. Imperforate Anus and Imperforate Rectum. Lantern slides—J. Rawson Pennington, Chicago.
Discussion—Maxmilian Hubeny, Chicago.
Isaac A. Abt, Chicago.
Paul Gronnerud, Chicago.
17. Operation for Fascia Repair in Cystocele—Paul Gronnerud, Chicago.
18. Etiology and Bedside Experience With Milk Sickness—A. J. Clay, Hoopeston.
19. A Study of the Physical Condition of 800 Registrants in the Selective Draft of 1917—Charles B. Johnson, Champaign.
20. Physical Fitness. Lessons from the Draft—E. Mammen, Bloomington.
21. Oration on Medicine—C. F. Hoover, Cleveland, Ohio.
22. Present-day Indications for Splenectomy in Pernicious Anæmia and Allied Conditions—A. F. Beifeld, Chicago.
23. Auricular Fibrillation—James G. Carr, Chicago.
24. Data Obtained from a Complete Study of 67 Cases of Gastroptosis—Albert R. Trapp, Springfield.

25. The Indication and Technique for Transfusion—E. S. Murphy, Dixon.

SECTION ON PUBLIC HEALTH AND HYGIENE.

Grace Campbell, Chairman.....Chicago
W. E. Park, Secretary.....Rockford

Wednesday, May 22, 1918, at 9 A. M.

1. The Practice of Preventive Medicine—William S. Sadler, Chicago.
2. Public Health Administration in Illinois Under the New Civil Administration Code—C. St. Clair Drake, Springfield.
3. Tuberculosis. The Period of Profound Peril.—Katherine B. Rich, Chicago.
4. Relation Between Public Health-Tuberculosis and Medical Education—Walter B. Metcalf, Chicago.
5. Meeting the Tuberculosis War Problem of Illinois—George T. Palmer, Springfield.
6. Postponing Old Age—Charles J. Whalen, Chicago.

SECTION ON EYE, EAR, NOSE AND THROAT.

J. Sheldon Clark, Chairman.....Freeport
Wesley H. Peck, Secretary.....Chicago

Wednesday, May 22, 1918—9 A. M.

1. "What Results May We Expect Following Tonsillectomy and Adenectomy"—Chas. F. Burkhardt, Captain, M. R. C., U. S. Army, Effingham.
Discussion—Arthur M. Corwin, Chicago.
2. "Ophthalmic Examination of Aviators"—Charles W. Small, First Lieut., M. R. C., U. S. A., Chicago.
Discussion—Francis Lane, Captain, M. R. C., U. S. Army, Chicago.
3. "Some Eye Injuries That Can Be Prevented"—Willis O. Nance, Chicago.
Discussion—William L. Noble, Chicago.
4. "The Instruction of Plastic Surgery About the Head and Neck" (Stereopticon)—Joseph C. Beck, Chicago.
Discussion—Ira Frank, Chicago.
5. "The Etiology and Diagnosis of Sinus Disease" (Stereopticon)—Richard J. Tivnen, Chicago.
Discussion—John A. Cavanaugh, Chicago.

6. "The Treatment of Nasal and Accessory Sinus Disorders"—Otto J. Stein, Chicago.
Discussion—Frank Brawley, Chicago.
7. "Personal Experience With the Operation for Senile Cataract"—Frank Allport, Chicago.
Discussion—J. Brown Loring, Chicago.
8. "Septal Deformities, Modification of Freer's Operation"—B. F. Andrews, Chicago.
Discussion—Otto T. Freer, Chicago.
9. "Arteriovenous Aneurysm of the Orbit"—George W. Boot, Chicago.
Discussion—Oliver Tydings, Chicago.
10. "Focal Infections in Relation to Diseases of the Eye"—Thomas Faith, Chicago.
Discussion—J. Elliot Colburn, Chicago.
11. "The Management of Tonsillar and Adenoid Hemorrhage"—Henry R. Boettcher, Chicago.
Discussion—Joseph Z. Bergeron, Chicago.
12. "Traumatic Ptosis, Modified Motais' Operation"—H. W. Woodruff, Joliet.
Discussion—George W. Mahoney, Chicago.
13. "Value of Localization of Magnetizable Foreign Bodies in the Eye"—John R. Hoffman, Wilmette.
Discussion—Nils Remmen.
14. "Treatment of Otosclerosis from an Etiological and Pathological Standpoint"—Harry L. Pollock, Chicago.
Discussion—J. Holinger, Chicago.
15. "Middle Ear Infections"—C. E. Price, Robinson.
Discussion—A. H. Andrews, Chicago.
16. "Status Lymphaticus"—Edward F. Garrahan, Chicago.
Discussion—T. J. H. Gorrell, Chicago Heights.
17. "Conservation Treatment of Eye Injuries"—H. H. Roth, Murphysboro.
Discussion—C. H. Francis, Chicago.
18. "The Pathogenesis of Ophthalmia Eczematosa, a Further Report"—Michael Gold-
enburg, Chicago.
Discussion—H. H. Brown, Chicago.
19. "Laryngeal Tuberculosis"—J. Niess, Carmi.
Discussion—George A. Torrison, Chicago.

20. "A Case of Multiple Sclerosis"—E. R. Crossley, Chicago.
 Discussion—Charles L. Mix, Chicago.
 (By invitation.)

SECRETARIES' CONFERENCE

- Flint Bondurant, President.....Cairo
 F. C. Gale, Secretary.....Pekin
 "The Work of the A. M. A. in the World's War."—J. W. Van Derslice, Chicago.
 "Work of the Grievance Committee."—Fred L. Glenn, Chicago.

EYE, EAR, NOSE AND THROAT SECTION

Clinic—Eye, Ear, Nose and Throat Section:
 On Tuesday morning, May 21st, as has been the custom, this section will have a clinic at St. John's Hospital beginning promptly at nine o'clock. In the forenoon, ear, nose and throat cases will be demonstrated and operated upon, and in the afternoon the eye cases will be treated and operated upon. These clinics will be conducted by some of the ablest clinicians in the state and have always proven worthy of a large attendance. This year will be no exception. Any physician in the state who is a member of the state society, and who wishes to present any cases, is cordially invited to make arrangements with Dr. John F. H. Deal, Leland Office building, Springfield, Ill., who is chairman of arrangements for the meeting of the Eye, Ear, Nose and Throat Section, in that city. Luncheon will be served at the hospital from twelve to one for all members.

BANQUET. Tuesday evening, at 6:30 o'clock, there will be a banquet at the Leland Hotel. Tickets will be \$2.50 per plate. There will be music, oratory and general good fellowship in abundance and an excellent dinner, such as only the Leland can provide. It is one of the great privileges of the year to be present at these splendid affairs and enjoy the fellowship of your colleagues. Please send your check for a reservation to Dr. John F. H. Deal, Leland Office Building, Springfield, Ill., who is chairman of arrangements for the banquet.

PROGRAM. Wednesday morning at nine o'clock, May 22nd, the Scientific Program of the Eye, Ear, Nose and Throat Section will open at the Leland Hotel, and continue until twelve o'clock, when an intermission will occur

for dinner, until one-thirty o'clock, the session will then resume and continue until five o'clock. The program which has been prepared with the greatest care will present the most interesting and important phases of progress in our specialties. You are urgently requested to be present and participate in this meeting which has proven an inspiration to all and amply repaid those who have made the effort to attend heretofore. The presentation of papers will be limited to ten minutes, and the opening discussions to three minutes.

DR. J. SHELDON CLARK, Chairman,
 Freeport, Ill.

DR. WESLEY H. PECK, Secretary,
 31 N. State St., Chicago.

ILLINOIS ALUMNI REUNION DINNER

A reunion dinner for alumni of the University of Illinois will be held in Springfield, Wednesday, May 22, 1918. Attend this fine meeting of the State Medical Society and have a good time with the other old graduates. Some excellent speakers, including President James, have promised to entertain, and a memorable and joyous meeting is expected.

HENRY EUGENE IRISH, '01, Chairman.

NORTHWESTERN UNIVERSITY ALUMNI

In view of the uncertainty as to attendance of Northwestern University graduates at the coming State Meeting in May, it is urgently requested that any who contemplate attending, make definite arrangements to be present at the Annual Alumni Banquet, which will be held May 23, at 12:15 o'clock noon, at the St. Nicholas Hotel. The very best price obtainable for the luncheon or banquet this year is one dollar and a half and the Hotel requires advance information regarding the number who will be present. For this reason if you are desirous of attending, kindly forward name and remittance to the undersigned at an early date, advising whether you wish ticket returned to you or held for you to be delivered upon your request Tuesday, May 21, when you register.

Signed DR. T. J. KINNEAR,
 510 Ridgely Bldg.,
 Springfield, Ill.

HEALTH SUNDAY

UNDER AUSPICES OF ILLINOIS STATE MEDICAL SOCIETY
Springfield Churches, May 19, 1918, 10:30 a. m.

First Presbyterian Church Dr. Marion K. Bowles,
2205 E. Capitol Ave. Joliet, Illinois.

Subject: FOLLIES.

Central Baptist Church, Dr. Martin M. Ritter,
5th St. & Capitol Ave. Chicago.

Subject: CONSERVATION OF MEDICAL AND
PHYSICAL EFFICIENCY.

First Methodist Church, Dr. E. W. Fiegenbaum,
5th St. & Capitol Ave. Edwardsville, Pres.-
Elect, Illinois State
Medical Society.

Subject: A PLEA FOR THE INNOCENT VIC-
TIMS OF THE SOCIAL EVIL.

First Congregational Ch., Dr. Bertha Van Hoosen,
601 South 6th St. Chicago, Pres., National
Medical Woman's As-
sociation.

Subject: WET OR DRY?

Third Presbyterian Ch., Dr. William K. Sadler,
1028 N. 7th St. Chicago.

Subject: LONG HEADS AND ROUND HEADS;
or, WHAT IS THE MATTER WITH GERMANY?

Kumler Methodist Ch., Dr. E. P. Sloan,
515 East 5th St. Bloomington.

Subject: CONSERVATION OF HEALTH IN
WAR TIME.

Douglas Ave. M. E. Ch., Dr. C. W. East,
1022 Governor St. Evanston, Chief of
State Division of Child
Hygiene.

Subject: MENTAL BACKGROUND IN PUBLIC
HEALTH WORK.

Union Baptist Ch.,
903 South 14th St.
18th St. Methodist Ch., Mr. E. R. Pritchard,
301 West Cook St. Chicago, Secretary, De-
partment of Health.

Subject: HEALTH FOR ALL.

South 7th St. Baptist Ch., Dr. Lena K. Sadler,
1712 S. 8th St. Chicago.

Subject: PARENTS AND CHILDREN; or OUR
DUTY TO THE ADOLESCENT.

Grace Lutheran Church, Dr. E. B. Coolley,
714 East Capitol Ave. Danville, Pres. Illinois
State Medical Society.

Subject: RED CROSS WORK.

Laurel Methodist Ch., Dr. William O. Krohn,
1345 Holmes Ave. Chicago.

Subject: HEART TO HEART TALK.

West Side Christian Ch., Dr. D. P. MacMillan,
702 S. Glenwood Ave. Chicago, Director Child
Study Dept., Board of
Education.

Subject: THE MENTAL AND PHYSICAL RE-
QUISITES FOR CITIZENSHIP.

Elliott Ave. Baptist Ch., St. Paul A. M. E. Church,
1113 Bond St. E. Mason St.
Dr. William Wilberforce,
Chicago.

Subject: HEALTH AS AN ASSET TO GOOD
CITIZENSHIP.

Grace A. M. E. Church, H. Reginald Smith, M. D.
1505 E. Brown St. Chicago.

Subject: KEEP THE HOME FIRES BURNING.

The Young Women's Dr. Edith B. Lowry,
Christian Association, Asst. Chief Bureau of
4:30 p. m., Hospitals, Department
5th and Jackson Sts. of Health, Chicago.

Subject: THE HOPE CHEST IN WAR TIME.

MASS MEETING, 7:30 P. M.

FIRST PRESBYTERIAN CHURCH

7th and Capitol Ave.

DR. E. B. COOLLEY,

Pres., Illinois State Medical Society, Chairman.

Introduced by Dr. Sadie Bay Adair, Chairman, Public
Policy Committee.

Speakers: Dr. Franklin Martin, member Advisory
Commission of the Council of National Defense,
Washington, D. C.; Dr. John Dill Robertson, Com-
missioner of Health, Chicago.

Subject: HEALTH INVESTMENTS THAT
WILL BRING THE GREATEST RETURNS.

NOTE: The United States Government and the
Red Cross Society have set aside Sunday, May 19, as
Red Cross Sunday, and the above named doctors will
give part of the allotted time to speaking of Red Cross
work.

MINISTER CALDERON.

Members of the Illinois State Medical Society,
attending the meeting of the Society to be held
in Springfield May 21-23, will be afforded the
opportunity of hearing one of the most distin-
guished of South American diplomats, in the per-
son of His Excellency Senor Don Ignacio Cal-
deron, Minister of Bolivia to the United States.
Minister Calderon will deliver an address at a
luncheon to be given in his honor Wednesday
noon, May 22, under the auspices of the Mid-
day Luncheon Club with members of the Illinois
State Medical Society participating as guests.
Besides officers of the Medical Society, a num-
ber of state and city officials will occupy places
at the speaker's table. If Governor Lowden is in
the city at this time, he will be asked to preside
at the luncheon and introduce Minister Calderon.
Minister Calderon speaks the English language

fluently, and has spoken before a number of notable gatherings in various parts of the United States. He has served as supervisor of public instruction in Bolivia, as consul general of Bolivia in New York City, and in 1900 became Secretary of the Treasury of Bolivia. Since March, 1904, he has represented his country as minister at Washington, D. C.

The Mid-day Luncheon Club extends a cordial invitation to all members of the Illinois State



His Excellency, Senor Don Ignacio Calderon, Minister of Bolivia to the United States.

Medical Society to attend this luncheon, which will be held at the St. Nicholas Hotel, and will be for both, men and women. The luncheon will begin about 12:00 m. and close at 2:00 p. m. While reservations may be made up to the evening of May 21, it is desired that all who plan to attend make their reservations in advance by writing the secretary, Elmer J. Kneale, Illinois State Register, Springfield, Ill.

CHAIRMEN

ALUMNI BANQUET COMMITTEES.

Rush—Dr. R. F. Herndon, Springfield.
 Northwestern—Dr. T. J. Kinnear, Springfield.
 Chicago P. and S.—Dr. G. J. Mautz, Springfield.
 Chi. Coll. Med. and Surg.—Dr. J. D. DeFrates,
 Springfield (St. Johns).
 Michigan—Dr. C. L. Patton, Springfield.

Washington Univ.—Dr. F. P. Cowdin, Springfield.

St. Louis Univ.—Dr. R. J. Flentje, Springfield.
 Barnes—Dr. A. W. Barker, Springfield.

General Alumni—Dr. F. P. Cowdin, Springfield.

Members expecting to attend any of the above banquets should notify the chairmen by card or write them for information.

Entertainment on Wednesday evening will consist of—

1. Moving pictures relative to the war and medicine.

2. Address by a well-known French medical officer.

3. Dance and refreshments—following the above.

Automobiles will meet all trains and can be recognized by the banner. There will be no need to walk anywhere at any time.

Registration will be in the rear of the basement of the Masonic Temple. Information desk there also. Exhibits there also. Telephone there also. Bulletin board there also. Pages there also.

Reservations and rooms are cared for by Dr. H. C. Blankmeyer and will receive prompt attention upon request. Reply will be sent by return mail.

All requests for information of the Eye, Ear, Nose and Throat Section should be addressed to Dr. John F. Deal, Springfield, Ill.

The entertainment for the attending ladies has not as yet been decided upon definitely, but will be up to the standard. These arrangements are being perfected by Mrs. Don Deal, Springfield.

On Wednesday at noon the Mid-day Luncheon Club will meet at the St. Nicholas Hotel to hear the Bolivian Minister to the United States. All members of the State Medical Society are to be its guests (for so much per).

Suggestions will be received with pleasure.

All communications to Dr. A. C. Baxter, Leland Office Building, Springfield, Ill.

YOUR COUNTRY CALLS YOU.

Colonel Robert E. Noble, M. C., U. S. Army, the Chief of the Personnel Division of the Surgeon-General's office, has done wonderful work in this war by organizing a body of 15,000 Medical Reserve Corps officers and bringing them to a high degree of efficiency. Colonel Noble, how-

ever, says: "We need medical officers, more medical officers, and yet more. We not only must provide medical officers with all tactical units, but must supply ambulance service, field and evacuation hospitals, hospital trains, base hospitals, convalescent, general and now reconstruction hospitals." To date only one physician in ten has been commissioned. We need to double that percentage.

Now, Doctor, ask yourself this question: "Is it not my duty to serve my country in this hour of need to the best of my ability?" There can be but one reply. *Answer the call!*

The undersigned will be glad to receive your application and give you any further information.

ED. J. DOERING, Major, M. R. C.
President, Board of Medical Examiners,
U. S. Army,
81 East Madison St., Chicago.

AN APPEAL FROM THE GOVERNOR'S HEALTH INSURANCE COMMITTEE.

In another column is an appeal from Dr. E. B. Coolley, president of the Illinois State Medical Society, to all of our members.

Dr. Coolley was appointed by Governor Lowden several months ago as the medical member of the legislative committee which is investigating the subject of compulsory health insurance in Illinois. Among other things the committee is making a survey of the medical side of the question, from which they hope to obtain information as to the necessity of health insurance. There is only one way to get this information, and that is direct from the doctor.

In a few days each doctor in the State will receive a letter enclosing a questionnaire, with the request that he fill out the blank and mail it promptly to the committee. The committee does not want your signature to your reply.

The question of health insurance is one of the most important questions of an economic nature before the medical profession today. If there is found to be a need of a compulsory health insurance, the profession of the State will probably fall in line and furnish the medical services, as the profession usually does. If there is found to be no real necessity for such insurance, then neither the State, the profession, nor the employe should be burdened with maintaining the

cumbersome machinery for such experiment or the financial responsibility which it entails.

The information contained in the replies sent in by the doctors will be used to determine the necessity of compulsory health insurance. We believe the questionnaire is to contain no question of theory or opinion, but is asking for facts as they obtain in your practice. The committee is asking for information—for facts—and each doctor should comply at once with the request, regardless of what his own opinion is concerning the advisability of compulsory insurance.

TO THE MEMBERS OF THE ILLINOIS STATE MEDICAL SOCIETY

The Health Insurance Commission provided for by the General Assembly of this State, June 23, 1917, and later appointed by the governor, for the purpose of investigating various health insurance systems proposed here and in operation elsewhere, is endeavoring to proceed scientifically and impartially.

There exist in many other states similar commissions. They have done and are now doing excellent work. The subject has been fully and at times acrimoniously discussed, but much vital data has always been wanting—data the doctor can produce.

For obvious reasons it is extremely difficult to obtain the co-operation of physicians, although vitally concerned. Some are informed upon the subject and deeply interested. Many more disinterested, consequently uninformed.

Some are smug in the belief that whether or not such a bill be enacted into law their situation will be unchanged. All are busy with other things. Many would refuse to be annoyed by a questionnaire, most personal in character—were they requested to sign their names.

The commission is striving to make a scientific survey for actuarial purposes and is not concerned with names. The medical group is most deeply interested and should be willing to take the time and trouble to assist in the collection of data which will establish the total amount of service rendered by our profession for which we are remunerated and the amount for which no remuneration is received.

Are you interested in these averages? If so, watch for the questionnaire, which you will re-

ceive three days hence. Rescue it from the waste basket, answer and return it immediately.

Call your fellow physicians' attention to the matter. Let it not be said that the physicians of Illinois failed to co-operate with their commissioner and became interested only after the commission had predicated its report upon all obtainable information—and the matter disposed of.

E. B. COOLLEY,
President, Illinois State Medical Society.

NOTICE

To the Editor:

Owing to conditions brought about by the present war, the American Proctologic Society has decided not to hold its meeting in Chicago on June 10-11. The Society will probably not meet again until after the war is over.

Very truly yours,
COLLIER F. MARTIN,
Secretary-Treasurer.

Obituary

DR. E. FLETCHER INGALS.

By the death of Dr. Ephraim Fletcher Ingals the profession has lost one of the notable and noblest characters in the annals of medicine and surgery and the City of Chicago one of its foremost citizens. He was a man whose character had elements worthy of painstaking analysis.

I regret that the brevity enforced by circumstances will permit so little liberty on my part in this direction. For several years I had the honor and pleasure of a close association and friendship with him and I feel that it would neither be fitting or just to let this occasion pass without paying a tribute to the memory of the dead, and to say something of the useful and instructive life that is now closed.

His was a full life replete with deeds that count for much. He had rare mental gifts; his mind was singularly alert, fresh and versatile. He was a man of masterful character, simple and unassuming, yet strong with a force that held him high above the petty things of earth and stamped him with the unmistakable signs of a Christian gentleman. Neither success nor honor turned him a hair's breadth from the straight

path which he had marked out for himself early in life. Success, honor and influence came to him in abundance, but they left him as they found him, plain, unselfish Dr. Ingals.

Dr. Ingals was born in Lee Center, Illinois, September 29, 1848. He was educated at Rock River Seminary, Mount Morris, Illinois, and received his medical education at Rush Medical College, graduating in 1871. He received his A. M. degree from the old University of Chicago in 1879. Dr. Ingals had a national reputation



Walinger Photo

Dr. E. Fletcher Ingals

in his specialty. His life was known of men, his record an ornament to medical annals and his achievements his best eulogy. He was an ex-interne of Cook County Hospital, 1871; assistant professor of *Materia Medica* Rush Medical College, 1871 to 1873, and from 1873 to the time of his death professor of diseases of the nose, throat and chest at the same institution.

From 1898 to the time of his demise he was comptroller of his medical Alma mater. It was largely due to the efforts of Dr. Ingals that Rush Medical College was made co-educational. For many years he was professor in the North-Western University Woman's Medical School and in

the Chicago Polielinie; professional lecturer on medicine, University of Chicago; member of nearly every International Medical Congress since 1880. Ex-President of American Laryngological and Climatological Association; ex-president of American Medical Colleges Association; ex-president Illinois States Medical Society; ex-president Chicago Laryngological and Climatological Association. Author of "The Diseases of the Nose, Throat and Chest," which passed through several editions; author of many articles and monographs on the same subject; ex-trustee of the American Medical Association; ex-president of the Citizens' Association. These are but some of the many high positions and distinguished honors that came to him during his active life. But great as they were they left his soul untouched by pride. He valued these recognitions greatly, but he esteemed himself more and went to his death beloved for what he was, a great man unspoiled by honors and applause.

Dr. Ingals was most happy in his domestic relations. He married in 1876 Luey S. Ingals, daughter of Ephraim Ingals, of Chicago. A woman possessed of bright intelligence and praiseworthy ambition, clothed as with a garment with the beautiful womanly qualities of modesty, energy and courage; and to her, as much as to any other influence in his life, he owed the progress which he made. She had been to him a friend, monitor, and counselor. Four children, two sons and two daughters, by this union are still living.

He was a highly educated and intellectual man. He was a great thinker and rare reasoner. He loved nature and was an interested student of the world and its affairs. He was an optimist. He enjoyed every blessing and grace kind nature bestowed on mortal man. The world has a rigid scale by which it measures men, yet if you touch the keyboard of his life by that scale you will find that every note will respond to the touch. He was unflinching in his convictions when his conscience told him to do a thing, when it indicated a path for him to follow, he followed, and he cared not for the world or what it might say. He was chivalrous, genial, lovable and affable. These were peculiar characteristics of him. Kindness was the fruit of his life, courtesy its seed, and yet it was not the production

of art and not the garb of policy; his soft, kind, suave, gentle, tender voice and manner were natural gifts that came from God. He had all the strong and rugged qualities of a manly man. He had all the grace and gentleness of a tender woman.

In the refined courtesies which bespoke the gentleman he was not surpassed. No word that he ever uttered could offend the sensibilities of anyone. His charity was bounteous. He was careful and considerate of and attentive to the wants of others. He was a faithful friend, a good neighbor, a kind father and a loving husband. Envy and spite had no lodgment in his heart; he loved his fellowmen. He was willing to indulge the doubt in his favor and tried to live up to the Golden Rule.

He was a religious man, but not a fanatic, yet wherever he went, unassumingly, simply, unostentatiously, he carried the sign of his faith with him. His faith was as childlike, his devotion was as constant to the last as when he learned his lesson at his mother's knee. He knew how to live and how to die. This is a knowledge worth more than all other sciences.

Though dead, his works live after him and those of us who knew and loved him will carry him in our hearts as a hallowed memory and an inspiration to dare and do great things for humanity to which he dedicated his best energies. He died as he lived, a good Christian and a model man; none knew him but to love him nor named him but to praise. CHAS. J. WHALEN.

MEDICAL OFFICERS' RANK.

The following article, issued by the American Defense Society, is of so great importance that we reproduce it in full. No comment is necessary. Every doctor should write his representative in Congress urging support of the bill.

THE PREVENTION OF DISEASE IN THE WAR MORE POWER FOR THE MEDICAL DEPARTMENT OF THE ARMY

LOUIS LIVINGSTON SEAMAN, M. D.

Late Surgeon Major, U. S. Vol. Engineers, Trustee American Defense Society

If the reader of this article approves its views, will he do his bit by promptly requesting his representative in Congress (House and Senate) to support the pending bill.

The bill now pending before Congress for the reorganization of the Medical Department of the Army is of as grave importance as any measure that has been presented since the American nation entered the present war, and its fate may determine the final issue of the war. When it is remembered that the Medical Department has to combat a foe, that in all the great wars of history, excepting the Russo-Japanese, has caused 80 per cent. of the entire mortality—never less than four times, and often twenty times as many as the artillery, infantry, shells and all other methods of physical destruction combined, the responsibility and importance of the medical officer in war will be appreciated.

The Department he represents has never had the necessary authority to enable it to reduce this frightful eighty per cent mortality to a minimum, and to do so without in any way interfering with the strategy, or military operations of the war.

The Medical Department of our Army is founded on the traditions of the British Medical Department of 1776, when preventive medicine was an unknown science, and the duty of the medical officer was to cure disease, instead of preventing it—of locking the stable door after the theft had been committed.

Our medical officers have never had the necessary rank and authority to prevent the development of the epidemics and other diseases in our Army that have caused the frightful mortality incident to War. Witness the records of the Spanish-American War in Cuba and Porto Rico and in the Philippines, which practically typify the conditions that existed in the Boer War in South Africa, in our own Civil War of 61-64, in the Russo-Turkish War, and in the British campaign in the Crimea.

The Porto-Rican Expedition in the opera bouffe performance known as the Spanish War may be taken as an example, for nowhere in history is there found a more illuminating instance, a graver lesson, or a more terrible warning than is there portrayed. For our country, it is the "Mene, Mene, Tekel Upharsin,"—the handwriting on the wall, so easily decipherable that he who runs may read; and yet, in the glory of victory, and the enjoyment of prosperity, its lesson has passed unheeded.

The story of the Expedition is brief. About 20,000 American troops landed in Porto Rico, while the Spanish on the Island numbered about 17,000. Several skirmishes occurred, in which, according to the *Surgeon General's report*, three men were lost from the casualties of war. The object of the war, the breaking of the chains of Spanish despotism and spoliation, which for centuries had held a race in shameful moral serfdom, was soon accomplished, and the war—from the strictly military standpoint, was over. From our first arrival, the natives of the island welcomed our battalions with vivas of applause, strewing our advancing march with flowers, and their masses were prepared to joyfully second our efforts for their complete emancipation.

That is the beautiful story history presents. Lest we forget as a Nation, and lie supine in the easy

content of this picture, let me invite attention for a moment to a further study of the report of the Surgeon General for that war. It states that, although only three men fell from the casualties of battle during that entire campaign in Porto Rico, 262, or nearly one hundred times as many, died from preventable causes. It fails, however, to state that the number of hospital admissions, nearly equaled the entire strength of the invading army, and that the camps of the army, from one end of the island to the other, were pestiferous hot-beds of disease, before they had been occupied a month; so that, had the bugle sounded for action, only a small percentage of the units would have been in a condition to respond to the call. Nor was this state of affairs confined to Porto Rico. In the invading armies of the Philippines and Cuba the same conditions prevailed.

The official figures as shown on the following table were furnished me by the *Surgeon General of the Army*, on the 10th day of October, 1905, and cover the vital statistics of the United States Military Expeditions for the year 1898.

	Deaths from Battle Casualties.	Deaths from Disease.
In the Philippine Islands.....	17	203
In Porto Rico.....	3*	262
In Cuba	273	567
In the U. S. Home Camps, etc.....	—	2,649
Total deaths.....	293	3,681

Or about one from casualties to thirteen from disease.

The report further shows that while the average mean strength of the army enlisted for the Spanish War was about 170,000, the total number of admissions to the hospitals was on September 10, 1898, over 158,000, or 90 per cent. This in a war of less than three months duration, and in which more than three-fourths of its soldiers never left the camps of their native land.

The Japanese army for the same period had about 4 per cent. hospital admissions, or one twenty-second times as many.

The vast difference in favor of the Japanese figures illustrates the value of a medical and sanitary department properly equipped to enforce practical sanitation, dietary, and other preventive measures.

The greatest tragedy of War lies not on the battle field but in the failure of a government to protect its guardians from preventable diseases, thereby immeasurably increasing the suffering and mortality incident to it. This can be largely prevented by giving the medical officer authority to enforce sanitation, and supervisory control over the rations of the troops.

Every death from preventable disease is an insult to the intelligence of the age. If it occurs in the army, it becomes a governmental crime. From

*Two of these deaths resulted from a stroke of lightning in a thunder storm.

the beginning the State deprives the soldier of his liberty, prescribes his hours of rest, his exercise, equipment, dress, diet, and the locality in which he shall reside; and in the hour of danger it expects him, if necessary, to lay down his life in defence of its honor. It should, therefore, give him the best sanitation and the best medical supervision the science of the age can devise, be it American, Japanese or Patagonian,—a fact of which Congress will do well to take cognizance at the earliest moment. For, just as surely as the engineer who disregards the signals, or the train dispatcher who gives wrong orders, is legally responsible for the loss of human life in the wreck which follows, so Congress, or the medical system of our Army, is responsible for all soldiers' lives that are needlessly and criminally sacrificed,—not on the glorious field of battle, but in diseased camps, from preventable causes.

Herbert Spencer, in his "Synthetic Philosophy," refers to "the ill treatment accorded the medical officers of the English Army as a late survival of the days of feudalism, and contempt for the purely scientific."

If wars are inevitable, and the slaughter of men must go on (and I believe wars are inevitable, and that most of them are ultimately beneficial), then let our men be killed legitimately on the field, fighting for the stake at issue, and not dropped by the wayside from preventable disease, as they did in the Spanish-American War—1,300 for every 100 that died in action. It is for the 1,300 brave fellows who are needlessly sacrificed, *never* for the 100 who fall gallantly fighting, that I offer my prayer.

I believe that if our Medical Department in the Spanish-American War had been systematized, with sufficient numbers, *with supervisory control over the ration, and with power to enforce sanitary and hygienic regulations*, the men of our army would have returned to their homes at the close of the campaign, in better physical condition than when they entered it, improved by their summer outing.

An army might be suffering from diarrhea or slight intestinal catarrh, due to change of water, of ration, or climate (and I have seen 90 per cent. of an entire command in this condition at one time), compelled to live on a diet of pork and beans and fermented canned rubbish that in six weeks prostrated 50 per cent. of its number with intestinal diseases, and sent three thousand to their everlasting homes, to say nothing of the enormous number invalidated, and the seventy-five thousand pension claims that followed as the result. Until the men were admitted to hospital wards the medical officer had no authority to even order a rice diet, which would have prevented the men from becoming invalidated. *This was one of the principal causes that brought our army of 170,000 men in the Spanish War almost to its knees in three months, and sent the survivors home in the shrunken and shriveled condition which many of us still remember.*

In all the wars in which the United States have engaged, disease has been responsible for more than 70 per cent. of the mortality, more than half of which

could have been easily prevented, had the Medical Department been properly empowered to meet its obligations. *Preventable disease, more than wounds, swells the pension list.* Statistics of the Pension Officer prove that if this unnecessary loss had been avoided, the saving in pensions alone, in every war in which America has participated, would have paid the cost of the resulting war in every twenty-five years. Aside from the sorrow of the homes made desolate, consider the economic value of the 70 per cent. of lives needlessly sacrificed, that might have been saved as breadwinners in industrial pursuits.

In an address delivered before the International Congress of Military Surgeons in 1904, after my return from the Russo-Japanese War, I said:

"Perhaps the day is not distant when another summons will come to join the Army of the Republic, when the first call may be, not as in the Civil War for 75,000 men, nor as in the Spanish War for 250,000, but when, more likely it will be for a round half million, to be followed possibly by another of equal number. And the question will be asked by the young patriot of that day, not 'who is the enemy to be met,'—no, the American boy is not built that way—but he will demand to know *what measures have been taken to insure him against the silent enemy that kills the eighty per cent.* And when he learns the same prehistoric regulations as to sanitation and protection against this foe are in force as existed in 1904, will he respond to his country's call? Yes, he will—for that is the way the American boy is built. And he will follow, as did his forebears, in their footsteps; and he will fall by the wayside as they did before. And history will record another crime."

"We see by the light of thousands of years,

And the knowledge of millions of men,
The lessons they learned through blood and in tears
Are ours for the reading, and then
We sneer at their errors and follies and dreams,
Their frail idols of mind and of stone,
And call ourselves wiser, forgetting it seems,
That the future may laugh at our own."

Give the Medical Officer rank, and *authority*, in all matters appertaining to sanitation and preventable disease, and supervision over the ration, when such authority will not interfere with the strategy of the officer of the line; and then, if epidemics or other preventable diseases occur, have him court-martialed and cashiered from the Army, as though he were a traitor and a spy.

Respectfully yours,

LOUIS LIVINGSTON SEAMAN,

Late Surgeon Major U. S. Vol. Engineers.
SPARTANBURG, S. C., March 28, 1918.

THE FIRST DOCTOR IN THE COUNTY

The Committee on Medical History has been striving to get the name of the first doctor in each county in the State. The list is far from complete, but it

was thought that others would be stimulated to make additions and corrections. It will be noticed that some counties have given a number of names of men who came about the same time. The whole list to date is given below. Please make corrections in this list and send to the Chairman of the Committee (Carl E. Black, Jacksonville, Ill.). He will also be glad to have additions to the list. We hope before the Centennial year is over to have the name of the first doctor in each county in Illinois and in addition to have the names of the first ten doctors in each county.

Date	Name	City	County
Date	Name	City	County
1802	Cadwell, George	Gabaret Island	Madison
1803	Smith	Fort Dearborn	
1808	Cooper, John	Fort Dearborn	
1810	Bowers, Joseph	Edwardsville	Madison
1811	Voorhis, Isaac	Fort Dearborn	
1814	Estes	Belleville	St. Clair
1814?	Schogg	Belleville	St. Clair
1815?	Green, Joseph	Belleville	St. Clair
1816	Gale, John	Fort Dearborn	
1816	Goforth, William O.	Belleville	St. Clair
1816	Brooks, J. V.	Jonesboro	Union
1817	Todd, John	Edwardsville	Madison
1817	Langworth, August	Upper Alton	Madison
1818	Brown, Erastus	Upper Alton	Madison
1818	McMahon	Fort Dearborn	
1818	Cadwell, George		Morgan
1818	Madison, William L.	Fort Dearborn	
1820	Winn, Charles	Indian Point	Menard
1820	Chandler, Ero	Jacksonville	Morgan
1820	Mark, Reuben	Collinsville	Madison
1820	Gershown, Jayne	Springfield	Sangamon
1821	Constant, William	Springfield	Sangamon
1823	Garrett, Elkur	Springfield	Sangamon
1826	Guffilli, Thomas		Tazewell
1826	Philler, Addison	Springfield	Sangamon
1827	Todd, John	Springfield	Sangamon
1827	Edwards, Benjamin F.	Edwardsville	Madison
1828	Meredeth, S. C.	Springfield	Sangamon
1828	Collins, Thomas C.	Dennison	Clark
1828	Renier	Clary Grove	Menard
1830	DeCamp, S. G. J.	Fort Dearborn	
1830	Darling, E.	Springfield	Sangamon
1830	Merriman, William	Springfield	Sangamon
1830	Gray, James R.	Springfield	Sangamon
1830	Jewel, D. B.	Big Grove	Kendall
1830	Fulkerson	Urbana	Champaign
1830	Fithian, William	Danville	Vermilion
1830	Palmer, Eben H.	Danville	Vermilion
1832	Wisen	Maynesville	DeWitt
1832	Wheeler	Maynesville	DeWitt
1832	Harrison	Maynesville	DeWitt
1832	Whitmore	Maynesville	DeWitt
1833	Woodbury, W. H. B.	Danville	Vermilion
1833	Davis, John		Livingston
1833	Norris, Nathan J.	Oakwood	Vermilion
1834	Sweetland, W. D.	Newark	Kendall
1834	Kendall, Gilman	Lisbon	Kendall
1835	Shields, Alex	Springfield	Sangamon
1835	Lemon, Theodore	Danville	Vermilion
1836	Reynolds, Cornelius W.		Livingston
1836	Martin, Chandler	Freeport	Stephenson
1836	Wheeler, Calvin	Bristol	Kendall
1837	VanValzah, Robert	Freeport	Stephenson
1837	Seeley, Townsend	Mansay	Kendall
1837	Henry, A. G.	Springfield	Sangamon
1837	Munson, James		Livingston
1838	Brady, J. T. H.	Little Rock	Kendall
1838	Page, H. F.	Genoa	DeKalb
1838	Burrill	Monticello	Piatt
1838	Talbott, Fletcher	Farmingdale	

1839	King	Decatur	Piatt
1839	Page, H. F.	Sycamore	DeKalb
1840	Hillis	Monticello	Piatt
1841	Hull, P. K.	Monticello	Piatt
1841	Temple	Big Grove	Kendall
1842	Clemmons	Oswego	Kendall
1843	Hopkins, Rufus	Coltonville	
1843	Rose, Ellsworth	Sycamore	DeKalb
1845	Holland		Livingston
1845	Ward, C. R.	Monticello	Piatt
1846	Vredenburgh, Saml. H.	June	Vermilion
1846	Bryan, O.M.	Sycamore	DeKalb
1846	Apperson, James Henry	Fillmore	Douglas
1847	Apperson, James Henry	Bourbon	Douglas
1847	Coffin, W. G.	Monticello	Piatt
1849	Woodman, J. M.	Sycamore	DeKalb
1849	Ruby, Basil	DeKalb	DeKalb
1850	See, R. J.	Castlefin	Clark
1850	Poof, S.	Marshall	Clark
1850	Holmes, N. S.	Livingston	Clark
1850	Jumper, S.	Darwub	Clark
1850	Payne, F. R.	Marshall	DeKalb
1850	Duncan, Charles	Marshall	Clark
1850	Churchill	Marshall	Clark
1850	Johnson	York	Clark
1850	Williams, Richard	Casey	Clark
1850	Parcels	Monticello	Clark
1850	Westfield	Martinsville	Clark
1850	Flenner	Martinsville	Clark
1850	McNary, W. H.	Martinsville	Clark
1850	Hanna, William A.	Lisbon	Kendall
1850	Hulse, John B.		Livingston
1850	Ostrander, C. B.		Livingston
1850	Medical Society organized March 28th		Adams
1852	Youmans, John W.		Livingston
1852	Perry, John M.		Livingston
1852	Freeman, J. A.	Millington	Kendall
1853	Hill, John		Livingston
1853	Johnson, Darius		Livingston
1853	Norxher, William	Monticello	Piatt
1853	Mitchell	Monticello	Piatt
1854	Smith, Dudley	DeKalb	DeKalb
1854	Medical Society organized		Madison
1854	Sweet, George J.		Livingston
1854	Norton, Eben		Livingston
1854	Medical Society organized		Madison
1854	Hubert	Upper Alton	Madison
1855	Knott, A. B.	Monticello	Piatt
1856	Wheeler, T.	Monticello	Piatt
1859	Wilson, J. F.	Tallula	Menard
1859	Medical Society organized	Tuscola	Douglas
1860	Medical Society organized		Clark
1860	Taylor	Monticello	Piatt
1860	Coleman, J. W.	Monticello	Piatt
1865	Medical Society organized Aug. 3rd		St. Clair
1868	Medical Society organized Jan. 28th		DeKalb
1868	Blealdwell, W.	Monticello	Piatt
1880	Medical Society organized		Scott
1880	Brangle, J. C.	Winchester	Scott
1890	Medical Society organized		Sangamon
1899	Baillett, E. P.	Springfield	Sangamon
1899	Taylor, Percy	Springfield	Sangamon
1899	Moffett, W. T.	Williamsville	
1901	Ross, John	Pontiac	Livingston
1901	Hamilton, C. L.	Dwight	Livingston
1901	Pearson, J. J.	Pontiac	Livingston
1901	Medical Society organized, January		Union
1902	Medical Society organized Feb. 11th		Kendall
1902	Freeman, J.A.	Millington	
1902	Hanna, William A.	Lisbon	
1902	McClelland, R. A.	Yorkville	
1903	Medical Society organized		Clark
1904	Medical Society organized Jan. 28th		Menard
1904	Medical Society organized April 30th		Piatt
1904	Vance, N. N.	Bement	Piatt
1904	Bumstead, C. M.	Monticello	Piatt

1904	Barker, B. L.	White Heath.....	Piatt
1904	Medical Society organized		Lawrence
1904	Friend, William, Sr.	Lancaster	Lawrence
1904	Chauncey, A. G. M.		Lawrence
1904	Bryant, J. B.	Lawrenceville.....	Lawrence

HISTORY OF MEDICAL ORGANIZATION IN LA SALLE COUNTY AND THE LA SALLE COUNTY ILLINOIS MEDICAL SOCIETY*

W. O. ENSIGN, M. D., Rutland, Illinois.

The discussion of the topic, through the medical journals and other sources of the country, during the years of 1845 to 1847, throughout which period the formation of the American Medical Association was under active consideration and until such body had been completely organized, together with the interest then inspired in the allied subject of local medical societies, proved no doubt a vigorous source of awakening the medical profession of the state to the advantages of medical organization. As a result a considerable number of local medical societies were developed, in name if not in permanent being, during the decade from 1845 to 1855, over the then pioneer State of Illinois.

The scattered population with its corresponding scarcity of physicians seemed to determine a considerable number of the early local medical societies to attempt to include a more extended territory than the confines of a single county. Among this number was the first medical society organized in La Salle county, since such was to serve as a professional organization, as then declared for "La Salle and adjoining counties," constituted at Ottawa in 1847. This organization not having met with the success hoped for, not unlike several others of a similar primitive character, soon passed out of existence.

It was succeeded in 1849 by the Ottawa Medico-Chirurgical Association, of which Dr. Allen H. Howland was president and Dr. Edward A. Guilbert, secretary, both of Ottawa; and while the title of the new society implied a more restricted territory, it did not necessarily so limit its membership. This last named society was also of but brief duration, since, having given origin to the State Medical Society in 1849 and 1850, it too soon afterward ceased to exist, and in 1853 it was succeeded by the La Salle County Medical Society, likewise organized at Ottawa.

The first city medical society in such county was organized at La Salle in 1853 or 1854. Its secretary was Dr. Lyman Hall, then of that city but later of Savoy, Ill., and while the society's title did not so indicate, yet that city had a helpful coadjutor, if not partner, in the medical profession of its near neighbor and twin city of Peru. This society was also soon numbered among those which had ceased to survive, and in its termination had unfortunately left no permanent record of its transactions.

The medical profession of Ottawa, in 1855, organ-

ized a city medical society which, with some dormant periods and reorganizations during its earlier years, has survived the pioneer days of its first organization, to have become a substantial and active society at the present time.

In later years a La Salle and Peru City Medical society has been instituted by the combined profession of those twin cities; while a Streator City Medical Society, in a city the growth of more recent years, has likewise come into an active existence.

Thus La Salle County, more than three score and ten years after the formation of the first medical organization within its border in 1847, now has a large and vigorous county and three creditable city medical societies within its territory to prove the active interest of its more than 125 physicians in the progress and welfare of their chosen calling, and to give testimony to their worthy and efficient standing among the organized medical profession of the state.

Of the La Salle County Medical Society heretofore but briefly noted, it can be stated that it was organized prior to any other of the now existing societies of the county and hence stands as the county's oldest permanent medical society at the present time. It was organized on July 29th of the year already noted; on the initiative of three of Ottawa's well known and long time substantial physicians, Drs. John O. Harris, Chester Hard and Joseph Stout, who by mutual agreement caused a public notice to be given to the medical profession, through the columns of the local press in the summer of 1853, announcing the date and purpose of the proposed meeting. As a result of such announcement, the following physicians were enrolled at Ottawa on the date mentioned, and there organized the La Salle County Medical Society, viz.: Drs. J. O. Harris, Chester Hard, Phillip Kirwin and Theodore Hay of Ottawa and C. S. Morey of Marseilles, together with two undergraduates in medicine, Abner Hard and R. M. McArthur, both of the same place.

It should be recorded that Dr. Joseph Stout of Ottawa, one of the instigators of the society's organization, having been unavoidably detained elsewhere during the meeting, was unable to be present as intended, but promptly allied himself with the society at its next meeting on the 7th day of the following September.

The two undergraduates present were temporarily admitted to honorary membership, but each graduated in medicine the following year, Abner Hard at the University of Iowa and R. M. McArthur at Rush Medical College, and both soon afterward became permanent members of the county society on March 1, 1854.

The society organized with Dr. Chester Hard as its temporary president and Dr. J. O. Harris as its temporary secretary, both of whom were later confirmed in the same positions among the first permanent officers of the society, Dr. C. S. Morey being chosen vice-president, Phillip Kirwin, treasurer, and Drs. Theodore Hay, C. S. Morey, Phillip Kirwin, Chester Hard and J. O. Harris, censors. A code of

*Written for the Committee on Centennial History.

regulations composed of a constitution, by-laws and rules of professional ethics was duly adopted, and thus this society eventually became the first permanent medical society of the county.

At no time an organization of large membership in the early years of its existence, it continued to thrive and generally to hold frequent meetings always, with one exception, at Ottawa, until April, 1861, or near the beginning of the Civil War, when, not unlike many other similar local medical societies of that period, owing to the response made for medical and surgical service on the part of numerous members during such war, it soon afterward fell into a dormant state, which, with the single exception of one day's meeting called on August 19, 1868, continued for an interval of twenty-four years.

At a meeting of the North Central Illinois Medical Association held at Mendota, Ill., in early December, 1884, several members of that society, who were residents of La Salle county, having mutually assembled to consider the question of organizing a society of the medical profession of the county, Dr. W. O. Ensign of Rutland was chosen chairman, Dr. J. J. Taylor of Streator, secretary, and Dr. J. S. Ryburn of Ottawa, committee of arrangements. On the motion of Dr. E. P. Cook, Sr., of Mendota, it was voted to hold a meeting for the organization of a La Salle County Medical Society at Ottawa on Tuesday, the 12th day of May, 1885.

Pursuant to such action a call for the proposed meeting was duly issued on April 20th of that year announcing the purpose and the date as selected. On the assembling of numerous members of the medical profession of the county at Ottawa, in accordance with such call, Dr. W. O. Ensign was again chosen chairman, and Dr. J. J. Taylor, secretary.

The matter of organizing a new county medical society or the reorganizing of the old one was taken under consideration. There having been found present a quorum of the members of the early organized society, consisting of Dr. J. O. Harris, its last chosen president in 1857; Dr. Joseph Stout, its last elected secretary in 1859, with the records of such society, likewise other members as Drs. Chester Hard, J. C. Hathaway and R. F. Dyer, all of Ottawa, it was voted to reorganize and continue the former society. The following permanent officers were accordingly chosen for the ensuing year, viz., President, Dr. William G. Ensign of Rutland; vice-president, Dr. William G. Putney of Prairie Center; secretary and treasurer, Dr. John J. Taylor of Streator; censors, Dr. R. F. Dyer, Ottawa; J. F. Dicus, Streator, and C. B. Provins, Lowell.

Several standing committees were selected and delegates to the State Medical Society named. Thus the early and long dormant La Salle County Medical Society was re-established, rejuvenated and constituted a vigorous and active organization for the benefit of the county's medical profession, and as a co-operative branch of the Illinois State Medical Society of which it is now one of its larger component parts.

Enrolled among its early membership prior to its reorganization, thirty-three in number, with nine honorary members, making a total of forty-two, are found the names and year of admission of doctors:

W. H. Brice, Ottawa.....	1857
Francis Bry, La Salle.....	1854
W. H. Davis, La Salle.....	1854
R. F. Dyer, Ottawa.....	1868
John Gillett, La Salle.....	1854
Abner Hard, Ottawa.....	1853
J. O. Harris, Ottawa.....	1853
O. P. Hathaway, La Salle.....	1854
Theodore Hay, Ottawa.....	1853
Guy Hulett, Peru.....	1853
A. G. Lawton, La Salle.....	1854
E. G. McGorris, Ottawa.....	1857
J. T. Milling, Peru.....	1859
John Paul, Ottawa.....	1868
Daniel Stone, Ottawa.....	1857
L. L. Thompson, Ottawa.....	1855
G. C. Worts, Ottawa.....	1854
J. C. Brown, Peru.....	1854
T. J. Cronise, Peru.....	1853
L. N. Dimmick, Freedom.....	1855
Joseph Foord, Ottawa.....	1855
Lyman Hall, La Salle.....	1854
Chester Hard, Ottawa.....	1853
J. C. Hathaway, Ottawa.....	1857
Peter Haughey, Ottawa.....	1859
John Higgins, Peru.....	1853
Philip Kirwin, Ottawa.....	1853
R. M. McArthur, Ottawa.....	1853
F. T. Maybury, Ottawa.....	1859
C. S. Morey, Marseilles.....	1853
F. M. Rose, Ottawa.....	1868
Joseph Stout, Ottawa.....	1853
W. W. Welch, La Salle.....	1854

HONORARY MEMBERS

W. W. Boyd.....	1868
A. E. Gibbs.....	1868
H. H. Hinman, New Michigan.....	1854
W. A. Sawyer, Earlville.....	1854
Milton Wooley, Peru.....	1854
Daniel Eastman.....	1854
E. A. Hill.....	1853
J. W. Reynolds.....	1868
G. E. Vance, Ottawa.....	1869

ROLL OF NEW MEMBERS OF 1885

S. L. B. Blacke.....	Tonica
R. W. Brown.....	Sheridan
T. A. Butler.....	Sheridan
E. H. Butterfield.....	Ottawa
E. P. Cook, Sr.....	Mendota
J. F. Dicus.....	Streator
W. O. Ensign.....	Rutland
James MacCoy.....	Ransom
Francis S. Prindles.....	Streator
W. G. Putney.....	Prairie Center
Charity S. Sanders.....	Ottawa
D. M. Vosburg.....	Earlville
G. G. Wilcox.....	Seneca

B. L. Bonar.....	Streator
S. L. Brown.....	Ransom
Ida C. Butler.....	Sheridan
C. D. Chalfont.....	Streator
J. M. Cowan.....	Hennepin
R. B. Dyer.....	Ottawa
J. S. Lewis.....	Grand Ridge
P. C. Palmer.....	Streator
C. B. Provins.....	Lowell
J. S. Ryburn.....	Ottawa
J. J. Taylor.....	Streator
E. W. Weis.....	Ottawa

A number among the early physicians of the county, not at any time enrolled as permanent members of the county medical society or who were local residents prior to its organization, are here mentioned with the hope that their names may inspire the recollection and suggestion of many others not heretofore so enumerated, especially of the pioneer and other early day practitioners of the locality.

H. D. Allen.....	Rutland
W. D. Briggs.....	La Salle
C. A. David.....	Northville
— Frollett	New Michigan
— Godfrey	La Salle
— Gould	Northville
J. L. Fryfield.....	La Salle
— Hopkins	Ottawa
— Hunt	Troy Grove
G. J. Monroe.....	Leland
— Pierson	Ottawa
H. Rosenkrans	Ottawa
H. C. Watson.....	La Salle
E. Winslow.....	Peru
— Basford	Lowell
— Bullock	Vermillionville
George Fisher.....	Rutland
J. W. Edwards.....	Mendota
— Gooding	Ottawa
E. A. Guilbert.....	Ottawa
G. W. Hollister.....	Freedom
A. H. Howland.....	Ottawa
J. V. H. Judd.....	Peru
John Moore.....	Rutland
H. S. Pratt.....	Ottawa
S. G. Smith.....	Peru
J. L. Weeks.....	Peru

It is a somewhat singular coincidence that while a medical society of La Salle county constituted the sole instigator and primary promotion of successful proceedings in 1849 and 1850 to institute a state medical organization, yet there failed to be any representatives from its membership or of such county's medical profession, further connected with the State Society's formation or in attendance at its annual meetings prior to 1858.

Although La Salle county had no county medical organization at the date of the annual meeting of the State Medical Society of the year named, it did organize, slightly less than two months later, a permanent county medical society as heretofore described which

has continued down to the present time and which was constituted too late to have been officially represented at the annual meeting of the State Society, such meeting having been held at Chicago on June 7-9, 1853. Notwithstanding the peculiar conditions mentioned, the records of the State Medical Society show that six physicians were there enrolled from La Salle county, viz.: Dr. William Welch, Frances Bry, John Gillett and Henry C. Watson of La Salle; James C. Brown of Peru, and Joseph Stout of Ottawa, two at least of whom, if not more, Drs. Welch and Bry, were undoubtedly in attendance.

Although no medical society existed in La Salle county the date given, Dr. Welch was admitted to membership as a delegate or representative, it would appear, of the medical profession of the county and thereafter took a very active part in the proceedings of the meeting as such. He proposed for memberships the names of the other five physicians just mentioned and they were duly elected; yet history shows that but one of the entire six, Dr. Bry of La Salle eventually completely complied with the society's conditions of membership and was so included among its permanent members for that year. Thus if the State Society records are correct, establishing Dr. Bry as the first physician of La Salle county to become a permanent member in full standing of the state medical organization, a relationship he steadfastly maintained for several years afterward. Indeed, it might be added that no other physician of La Salle county ever remained a continuous member of such society longer than one year prior to the date of the Civil War, save Dr. Philip Kirwin of Ottawa, who was enrolled therein in 1854. Drs. Bry and Kirwin only so continued their membership up to 1858, the year of the latter's death.

The name of Dr. Welch is to be found recorded in the State Society transactions of 1853 among those of the committee to nominate officers, the society then selecting its officers at each annual session to conduct the exercises of such meeting; likewise on the committee to nominate standing committees for the ensuing year. He was also chosen one of the secretaries, or practically assistant secretary, though then not so designated, of the society. He engaged in discussing the subject of the next place of meeting, and no other conclusion can be drawn from the State Society's records than that he was largely instrumental in securing the Society's annual meeting at La Salle the following year.

The meeting of the State Medical Society at La Salle on June 6-7, 1854, and the holding of the La Salle County Society's summer meeting in the same city on the second day of such date, proved to be sources of much inspiration to the medical profession of the county and one affording numerous applications for membership in each, from among the local profession. The County Society enrolled eleven new members and the State Society elected to membership a still larger number, each of which was a very considerable increase for the early period of its occurrence.

Unfortunately most of the later memberships proved to be unstable in their future relationship to the State Medical Society and did not fully comply with the conditions of the membership to which they had been elected, hence were not ultimately enrolled as permanent members. Such condition of unstable membership doubtless arose not so much from a want of interest in their profession as from the time and expense necessary to attend the State Society's meetings, often held at long distance away and the poor uncertain facilities afforded for travel at such early periods.

The La Salle County Medical Society selected for its first delegates to the State Society Drs. Theodore Hay and John O. Harris, both of Ottawa; as delegates to the American Medical Association, Drs. Chester Hard of Ottawa and John Higgins of Peru, and as alternates to the latter, Drs. Joseph Stout and Theodore Hay, both of Ottawa. Drs. O. P. Hathaway and John Gillett of La Salle seem to have first appeared as La Salle county delegates, but Dr. Harris arriving later with credentials took his seat as a chosen delegate of the county society. The State Society's Committee of Arrangements for 1854 consisted of Drs. Wm. W. Welch of La Salle, James C. Brown of Peru and Henry C. Watson of La Salle. Dr. Joseph Stout served the State Society as a member of the Committee on Nominations and Drs. Welch and Higgins were named among the Society's delegates to the American Medical Association. Dr. Welch was made a member of the Standing Committee on Obstetrics, Dr. Stout on that of Drugs and Medicines and Dr. Harris on Prize Essays.

The following list of La Salle county physicians, most of whom had at some time become members of the county medical society, were proposed and elected to membership in the State Society, Drs. W. W. Welch and John Gillett of La Salle and Joseph Stout of Ottawa being already such:

W. H. Davis, La Salle.	Abner Hard, Ottawa.
J. O. Harris, Ottawa.	O. P. Hathaway, La Salle.
Theodore Hay, Ottawa.	John Higgins, Peru.
Guy Hulett, Peru.	Philip Kirwin, Ottawa.
A. G. Lawton, La Salle.	J. T. Milling, Peru.
R. M. McArthur, Ottawa.	J. L. Fryfield, Peru.

The following six La Salle county physicians, all evidently in attendance, yet appear by the record not to have been mentioned among those proposed or elected to membership:

J. C. Brown, Peru.	Lyman Hall, La Salle.
Chester Hard, Ottawa.	H. C. Watson, La Salle.
J. L. Werles, Peru.	G. C. Worts, Peru.

The succeeding annual meeting of the State Medical Society was held at Bloomington on June 5 and 6, 1855, on which occasion the name of Dr. J. O. Harris was placed on the Standing Committee on Practical Medicine. The La Salle County Medical Society had elected as delegates to such State Society meeting, Drs. Milling, Kirwin and Hay, and as their alternates, Drs. Hulett, Morey and Welch, but only the names of Drs.

Harris and Hay are to be found on the Society's permanent membership roll for such years, after which their names were further omitted and those of Drs. Bry and Kirwin reserved. The succeeding years up to and including 1858 give only the names of the last two physicians, following which year the rolls of the State Medical Society thereafter contained no names of La Salle county physicians until 1864. Dr. Abner Hard, however, once an early member of such Society, having soon removed with his medical society affiliation to Kane county, maintained his membership in the State Society for many years afterward—but, of course, from Kane county. The fact that there was no member of the La Salle county medical profession enrolled among the membership of the state organization for several years prior to 1864 is thus fully established.

As an incident relative to the further reappearance of membership of La Salle county physicians in the State Society, and more particularly to the promotion of the reorganization of the La Salle County Medical Society, it might be stated that being desirous of a closer acquaintance and a more cordial association with their surrounding professional colleagues, as well as of obtaining the advantages of the mutual exchange of individual views and practical experiences with their fellow practitioners of medicine, two physicians of La Salle county, Drs. Edgar P. Cook, Sr., of Mendota and Wm. O. Ensign of Rutland, then personally unknown to each other, in the early seventies, found membership in the Woodford County Medical Society, organized in 1870. Such membership was desired by each for the reason that no visible county medical society was then known to them to be in existence in the county of their residence, or in any other locality more ready of access to their meetings.

Through such relationship the last named physician obtained membership in the State Medical Society in 1873, the first named having already attained to such standing on his own volition, as early as 1864, a relation which he ever maintained until his death about forty years later.

Thus it may be seen that Dr. Cook, who at that date had never at any time been a member of the La Salle County Medical Society, was the first physician of the county society to secure membership in the state body after the County Society had reentered a second dormant state in 1868, and the former interest of the county's medical profession had appeared to have entirely subsided.

As late as 1875, the year of the State Society's 25th anniversary, the names of the following nine physicians had gradually found place on such society's rolls, from La Salle county, a beginning which has been since greatly augmented in numbers with the revival in interest in medical organization in the county:

- E. P. Cook, Sr., Mendota, enrolled 1864.
- J. C. Corbus, Sr., Mendota, enrolled 1865.
- D. M. Vosbury, Earlville, enrolled 1869.
- C. A. David, Northville, enrolled 1873.
- W. O. Ensign, Rutland, enrolled 1873.

R. F. Dyer, Ottawa, enrolled 1874.

G. J. Monroe, Leland, enrolled 1874.

H. N. Hurst, Streator, enrolled 1875.

D. L. Woods, Streator, enrolled 1875.

None of those here named have ever been enrolled as permanent members of the early county society save Dr. R. F. Dyer of Ottawa, who, with two other physicians, who had been admitted to membership at the only meeting held by the County Society during a period of twenty-four years, and this in 1868, and which meeting was assembled for the specific purpose of electing them to its membership.

Of the foregoing list of physicians Drs. Cook, Ensign and Vosburg took part in the County Medical Society's reorganization in 1885, as new members, with Dr. Dyer of the early society, which resulted in establishing a permanent La Salle County Medical Society, as heretofore described, a society which has long since taken a high rank among the local component societies of the state organization, and has proven to be an efficient and helpful promotor of the larger society's progress and success as a representative body of the medical profession of the state.

That the active influence of the medical profession of La Salle county has been far from a negative one towards the existence and success of the State Medical Society is shown in the fact that members of the former have frequently been assigned to important duties in the work of the larger body as well as called to occupy official positions therein of no little honor and responsibility. Thus in addition to serving from time to time on important committees, or as officers of sections, members of La Salle County Medical Society have supplied two chairmen of the Judicial Council covering together a period of six years as Drs. Cook and Ensign; a secretary of the State Society, Dr. Edmund W. Weis of Ottawa, for sixteen years; and three presidents of that society, Dr. Edgar P. Cook, Sr., of Mendota, now deceased, in 1879; Dr. Wm. O. Ensign of Rutland, now the oldest living ex-president of the State Society, in 1888; and Dr. James W. Pettit of Ottawa, in 1909; while the medical profession of the county have twice entertained such society in its annual meetings, first at La Salle in 1854 and lastly at Ottawa in 1896.

With the past creditable record of such profession and its efficient and influential medical society, in their relation to the organized medical profession of the state, it behooves the physicians of the county to permit no relaxation of spirit or effort in securing and maintaining a thoroughly well organized medical profession within its own borders. As one of the older local medical societies of the state it now has a continuous history of well nigh three score and ten years, having long since survived the precarious conditions of the early local medical organizations of a pioneer period of the state's development, to progress into a vigorous and influential component part of one of the largest state medical organizations of the federal union.

It should be a matter, not only of professional but

civic pride, to every physician of La Salle county to maintain a persistent and energetic effort for its perpetuity and welfare, through which the local profession may unitedly and forcefully oppose that which is evil and wisely promote whatever is for the best interests of its members and the public with whom it is so intimately associated and constantly serves.

Would that every physician in the county might fully appreciate its advantages and feel a personal responsibility in its maintenance with a hearty desire to share in the benefits of a well ordered local medical organization of his own profession, and thus promote his associates', his professional and his individual welfare and happiness, and with such ever loyally seek to sustain the credit and honor of his county's medical profession.

Public Health

CHILD WELFARE PROGRAM FOR ILLINOIS

Through the co-operation of the Elizabeth McCormick Memorial Fund, the State Department of Public Health and other governmental and extra-governmental agencies the child welfare program of the Illinois Division of the Woman's Council of National Defense is being put into execution. In the local organization for this child welfare work the women registered for wartime service by the Woman's Council of Defense will be employed.

The Illinois Child Welfare program has been endorsed by the State Department of Public Welfare and the Illinois Tuberculosis Association and is being carried out by the Department of Child Welfare of the State Department of Public Health under the immediate supervision of Dr. C. W. East.

The program includes the following features: One hundred per cent registration of births and deaths throughout Illinois; a community nurse in every county in the state; the means of training nurses for community public health work; the establishment of a school for midwives to meet the new requirements of the state law; the encouragement of the dispensaries conducted by the State Department of Health for the after effects of poliomyelitis and the re-education of crippled children; the encouragement of baby weeks, welfare stations and maternity clinics in different sections of the state; the establishment of a large collection of exhibit material on child welfare and the kindred subjects; the maintenance of a speakers' bureau and the establishment of a permanent traveling child welfare exhibit.

All of the various departments of the State Department of Public Health having to do in any way with child welfare are participating in this program and valuable co-operation is also being given by the Illinois Tuberculosis Association, particularly in the employment of community nurses in all sections of the state and in the establishment of medical school inspection, school nurses and open air rooms. The

Illinois program is intimately linked up with the plans of the Federal Children's Bureau at Washington.

THE CARE OF RETURNED TUBERCULOUS SOLDIERS

Through an agreement between the Central Division of the Red Cross, the State Department of Public Health and the Illinois Tuberculosis Association, immediate provision is to be made for the 600 or 700 soldiers who have already been returned to the various Counties of Illinois on account of tuberculosis, and plans will be completed for the care of the hundreds of additional tuberculous soldiers who will doubtless be returned to Illinois during the present year.

Under the provisions of this contract the American Red Cross will furnish immediate care to the returned soldier from the time he reaches his home community until his examination has been completed and the method of treatment outlined and recommended. The Red Cross relief for these soldiers so far as permanent care is concerned will be made only after thorough physical examination by physicians designated by the Illinois Tuberculosis Association and after the method of treatment has been advised. The Illinois Tuberculosis Association with a corps of physicians and nurses will examine the returned soldiers in their homes or at convenient central points where the soldiers will be sent by the American Red Cross. The home service sections of local Red Cross Chapters will investigate all cases and will be responsible for the financing of permanent care.

For the purposes of examination the State has been divided into twenty-five districts, nine of which center about communities in which well organized tuberculosis dispensaries or sanatoria are now in operation while sixteen are made up of groups of counties in which there is a central point with satisfactory and convenient railway facilities. The nine permanent examining districts are the following: The Rockford District under the supervision of Dr. O. W. McMichael of Chicago; the Chicago District, including several counties but not including the City of Chicago, under the supervision of Dr. Ethan Allen Gray of Chicago; the Ottawa District under the supervision of Dr. J. W. Pettit of Ottawa; the Springfield District under the supervision of Dr. George Thomas Palmer of Springfield; the Decatur District under the supervision of Dr. Cecil Jack of Decatur; the Danville District under the supervision of Dr. Robert Clements of Danville; the Peoria District under the supervision of Dr. Fred M. Meixner of Peoria; the Bloomington District under the supervision of Dr. Bernice Curry of Bloomington and the Jacksonville District under the direction of Dr. Charles E. Cole of Jacksonville.

The examinations in the sixteen other districts in the State will be made by a staff of physicians under the supervision of Dr. Wilson Ruffin Abbott who has recently left Chicago to become permanently associated with Dr. Palmer in Springfield. The general direction

of the examination of all returned tuberculous soldiers will be in the hands of Dr. Palmer, who is President of the Illinois Tuberculosis Association and Assistant Director of the State Department of Public Health.

AN ILLINOIS COURSE FOR COMMUNITY NURSES

To meet the emergency demand for public health or community nurses in Illinois, brought about by the excessive demand for nurses by the American Red Cross for military service, by the increasing public health and medical social activities throughout the State and the need for such nurses for public enterprises peculiar to wartime, there is being developed at Springfield a short course in community work designed for graduate and registered nurses. This course will be made up of didactic and field instruction in public health nursing, communicable diseases, rural sanitation, elementary laboratory work, sanitary surveying, tuberculosis nursing and dispensary methods, public health speaking, educational work, adult and juvenile delinquency, state charities, child welfare work, school nursing, mental hygiene and every phase of medical-social activity especially as applied to the smaller community. The teaching staff will be made up of the division chiefs and experts of the State Department of Public Health and of the State Department of Public Welfare, the Illinois Tuberculosis Association, the Elizabeth McCormick Memorial Funds and the directors of dispensary and nursing service of Illinois cities in which medical-social activities are being carried on with a high degree of efficiency.

The field work will be carried on in Peoria, Danville, Decatur, Jacksonville, Bloomington and Springfield and an opportunity will be given the members of the classes to visit the State charitable institutions in personally conducted parties. Members of the classes will also remain for short periods of time in tuberculosis sanatoria and other institutions. No charges will be made; but all nurses taking the course, which, owing to emergency conditions, will occupy but two months, will be expected to enter immediately into public health work in Illinois in the nursing field of which there are now many vacancies.

The brevity of the course is overcome to a considerable extent by the fact that the nurses will be under efficient supervision after entering their permanent fields.

STATE HEALTH DEPARTMENT NOTES

In addition to the large amount of work undertaken by the Division of Sanitary Engineering of the State Department of Health in meeting the routine sanitary work of the State, special investigations have been made during the past month of all public and parochial schools of Waukegan and North Chicago and special work has been done at Peoria.

During the month of March smallpox prevailed to

an unusual extent at Alton, Peoria, Quincy, Belleville, East St. Louis, White City, Bryant, Mill Creek and Du Quoin, and in the rural districts surrounding several of these communities.

* * *

Scarlet fever has been especially prevalent at Keithsburg, East Galesburg and Rock Falls.

* * *

The number of cases of diphtheria in Illinois at the present time is smaller than for many months past. Poliomyelitis has been reported from but six communities during the past month.

OUR SERVICE FLAG

ARTHUR M. CORWIN, A. M., M. D.

MARCH, 1918

With field of white, with stars of blue,
With binding band of ruddy hue,
Fair emblem of a nation's pride,
"Old Glory's" symbols sanctified,
Our loyalty that shall not lag
We pledge to thee, our Service Flag.

From windows of the rich and poor,
Thy spirit streaming warm and pure,
The spirit of great Washington,
Speaks through a thousand stars or one
Of loyalty that shall not lag,—
Our pledge to thee, oh, Service Flag.

Enmeshed within thy field of white,
The righteous cause for which we fight,
Of justice, honor, liberty
The whole world round o'er land and sea;
The loyalty that shall not lag
We pledge to thee, our Service Flag.

Thy stars! The blue of cloudless skies,
The blue of love, of sacrifice,
Of love for country, home and friend,
That soldier-sailor boys defend
With loyalty that shall not lag,
The "true blues" of our Service Flag.

Red runs the border of thy scroll,
The flaming passion of the soul,
The will, the courage and the might
Of those who live and die for right,
The loyalty that shall not lag,
To back thy boys, oh! Service Flag.

RECIPROCITY IN MEDICAL LICENSURE

Thirty-nine states have established reciprocal relations with seven or more other states by which the

license to practice medicine is accepted in lieu of a second written examination. Generally speaking, the methods by which such reciprocal relations are being administered at the present time tend toward the lowering of educational standards. There appear to be three distinct provisions under which such relationships are established. A few states take the ground that under the reciprocal agreements they must accept all candidates who apply for registration holding licenses from the other states. Under the widely differing standards held by the various boards, such an agreement would leave a wide open door whereby poorly educated physicians as well as others could secure a license in any of the states included under such an agreement, and the lowest educational standard enforced by any of the states would be the highest standard which could be effective. To limit the relationships to only a few states merely decreases the evil, since even the best regulated state board will occasionally register candidates who may not in all respects meet the requirements of some of the other reciprocating states. Furthermore, to limit reciprocal relationships to only a few states is to deprive the physicians of the state of the wider privileges which they should have through interstate reciprocity. Another basis for reciprocity, adopted by a larger number of states, provides that the license of the other state be accepted in lieu of the written examination only, and that the applicant must meet the educational and moral requirements of the state which accepts him under the reciprocal arrangement. In other words, each board retains the right to use its discretion in the acceptance of any candidate for registration under reciprocity. This plan is superior to the first one mentioned, in that it enables each board not only to establish relationships with a larger number of states, but also to uphold its educational standards for every applicant registered. Unfortunately, a few states, even with this arrangement, are not administering its provisions as strictly as might be desired. The third plan is that under which any well qualified physician who has been licensed in any state will be accepted no matter whether that state reciprocates or not. Eight states¹ have now adopted this plan and the number should be increased. It is the best provision for all parties concerned. The well qualified physician who desires to move from one state to another is not prevented from so doing through the lack of legal provision for reciprocal relations or through the arbitrary refusal of a licensing board to provide for such relationships; the state law is upheld since the board accepting such candidates lays strong emphasis on the moral and educational qualifications of the physician and, finally, this plan upholds the best interests of the public since only well qualified physicians may care for the sick and injured in the states which thus accept them.—*Jour. A. M. A.*, April 13, 1918.

1. These states are Arizona, California, Colorado, Delaware, Maryland, New Hampshire, New Jersey and North Carolina.

Correspondence

Augusta, Maine, April 22, 1918.

To the Editor: I wish to thank you for the "Health Insurance" pamphlets you sent me recently.

I am glad that the California people are waking up to the fact that the whole scheme is primarily a German plan to create trouble in this country. I have thought so from the first.

I think your State Society and the Chicago Medical Society have certainly done good work in opposing this scheme. I cannot understand why more is not being said in the A. M. A. Journal.

As near as I can find out, the profession as a whole is opposed to this scheme, and practically all the laymen on the commissions, after considerable study, have been opposed to the plan, or at least, doubtful as to its being feasible.

I was afraid at one time that it might become a law in California and I am glad that there is more opposition to it.

I am very much interested in this subject, and if you hear of any later developments or any new literature, I would consider it a great favor if you would send them to me. I am,

Fraternally yours,
FRANK E. ROWE, M. D.

WAR DEPARTMENT, OFFICE OF THE
SURGEON GENERAL.

Washington, April 8, 1918.

MEDICAL RESERVE CORPS.

To the Editor:

1. I wish to call to the attention of the profession at large the urgent need of additional medical officers. As the war progresses the need for additional officers becomes each day more and more apparent. Although the medical profession of the country has responded as has no other profession, future response must be greater and greater. The department has almost reached the limit of medical officers available for assignment.

2. I am, therefore, appealing to you to bring to the attention of the profession at large the necessity for additional volunteers. So far the United States has been involved only in the preparatory phase of this war. We are now about to enter upon the active, or the fighting phase, a

phase which will make enormous demands upon the resources of the country. The conservation of these resources, especially that of man-power, depends entirely upon an adequate medical service. The morning papers publish a statement that by the end of the year a million and a half of men will be in France. Fifteen thousand medical officers will be required for that army alone. There are today on active duty 15,174 officers of the Medical Reserve Corps.

3. Within the next two or three months the second draft will be made, to be followed by other drafts, each of which will require its proportionate number of medical officers. There are at this time on the available list of the reserve corps an insufficient number of officers to meet the demands of this draft.

4. I cannot emphasize too strongly the supreme demand for medical officers. Will you give the department your assistance in obtaining these officers? It is not now a question of a few hundred medical men volunteering for service, but it is a question of the mobilization of the profession that in the large centers of population and at other convenient points as well as at all army camps and cantonments, boards of officers have been convened for the purpose of examining candidates for commission in the Medical Reserve Corps of the Army. An applicant for the reserve should apply to the board nearest his home.

5. The requirements for commission in the Medical Reserve Corps are that the applicant be a male citizen of the United States, a graduate of reputable school of medicine, authorized to confer the degree of M. D., between the ages of 22 and 55 years, and professionally, morally and physically qualified for service.

6. With deep appreciation of any service you may be able to render the department, I am,

J. C. GORGAS,
Surgeon General, U. S. Army.

MEDICAL WOMEN OF ILLINOIS.

To the Women Fellows of the American Medical Association:

The medical women of Illinois are looking forward to meeting and entertaining the women physicians of America in Chicago next June.

The Hospitality Committee has reserved an entire floor of rooms at the Hotel La Salle and will be glad to make reservations for those who wish

accommodations. Dr. Grace H. Campbell, chairman, 25 E. Washington street.

The banquet for all the women physicians will be held on the evening of June 12th.

Headquarters for our visitors will be established at the Chicago College Club, seventeenth floor Stevens' Building, 16 N. Wabash avenue. This is located in the heart of the business district and is a few minutes' walk from the principal meeting places and general headquarters of the A. M. A. Have your mail forwarded here, meet your friends here, take luncheon and supper here and rest between meetings.

On Tuesday, June 11, Dr. Mabel Ullrich of Minneapolis will deliver an address in the Assembly Room of the Chicago College Club from 12 to 1 o'clock.

Five days of clinics are to precede the regular meeting. This will bring many physicians into the city who will be here over Sunday and will give us an opportunity for meeting socially Saturday afternoon and Sunday, June 8 and 9. We should, therefore, like very much to hear from every woman physician who is coming to Chicago during the A. M. A. convention, informing us the date and time of her arrival and her address in the city, so that we may arrange some fellowship gatherings.

We particularly desire to be of service in any capacity, either before your arrival or afterward, and shall be glad to have you communicate with us if there is anything we can do for you.

We are anticipating a large gathering and a happy time.

CLARA P. SEIPPEL,

Chairman, Medical Women's Committee,
A. M. A., 25 E. Washington St., Chicago.

Society Proceedings

ADAMS COUNTY

The April Meeting of the Adams County Medical Society will long be remembered by those in attendance.

Dr. L. Harrison Mettler of Chicago was the guest of the society. He reached Quincy about 7:30 a. m.; was met, taken to breakfast and then brought to Blessing Hospital, where he conducted a most interesting clinic—various types of nervous diseases, being present.

After luncheon, he visited various places of interest, and in the evening the regular meeting of the society took place at the Elks Club Rooms, with thirty-five members present.

After the business meeting Dr. Mettler read a carefully prepared, very deep and thoughtful paper on "Neuro-Civilization." It is impossible to give a resume of the subject, as it contained too much good and valuable material to be summed up in a few short sentences. We only hope more of the doctors of the state may have had the pleasure of hearing this wonderful treatise.

Dr. Mettler was given a rising vote of thanks.

Dr. A. G. Clark, member of the United States Navy, who was present made a few interesting remarks regarding the regulations, etc., of Uncle Sam's Navy.

Luncheon was served after the meeting adjourned.
ELIZABETH B. BALL, Secretary.

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, April 10, 1918

1. Pulmonary Tuberculosis as Treated in This Community, W. H. Watterson.
2. Diagnostic Signs of Tuberculosis of the Bronchial Glands, Walter B. Metcalf.
3. Induced Pneumothorax; Its Use in Treatment of Pulmonary Tuberculosis With a Report of 202 Cases, Everett Morris.

MADISON COUNTY

Our March Meeting

The Madison County Medical Society met in Collinsville, on the afternoon of March 2, 1918, with President Dr. John Siegel in the chair, eleven members and three visitors were present.

Dr. R. S. Barnsback was appointed to represent this society in gathering data for the Centennial Commission.

Dr. George T. Palmer, of Springfield, opened the discussion on the subject of the proposed County Tuberculosis Sanitarium, by making a clear and concise statement of the purposes and scope of such an institution. He briefly outlined the several steps to be taken in launching this project after which blank petitions were distributed to all in attendance with instructions to have the same filled with signatures and returned to the secretary.

A vote of thanks was given the speaker, who promised to return and assist us in the sanitarium campaign.

LETTER FROM DR. WAHL

We were permitted to read a letter from Dr. Eugene Wahl, one of our members, serving at Camp Custer, Battle Creek, Mich. We are printing some extracts, showing the details of his life in the service.

"I have been in medical work for about two months and saw a great variety of interesting cases, everything from an old fashioned "tummy ache" to the most interesting and obscure cases. We have a splendid laboratory and plenty of specialists, who are called upon for help in all obscure cases and by the

time we get through we usually find out what is wrong with a man.

"There is no chance for guess work as everything has to be proved by x-ray, blood analysis, stomach analysis, etc., and all findings noted on chart and the case studied from that. When anyone gets through the soldier surely has had a complete going over.

"The boys surely are fortunate in being able to get such treatment and if the folks back home knew what care and attention they get when sick I am sure they would feel greatly relieved when reports reach them relative to illness of their boys. Each and every case here gets far more and better attention than they would possibly receive anywhere except in the big hospitals of the very largest cities and is not to be compared to what we could give them at home, where we have only the small equipment in our offices with which to work and no trained laboratory help to assist us.

"I have finished my medical training and have been moved over to surgical work, which keeps me quite busy. I have one ward to look after in which all the cases are sent for diagnosis and after operation for dressings.

"I work there from 7:30 to 10 each morning, then in the operating room from 10 to 12. From 1:30 to about 3 we hold a clinic, every officer in the hospital attends and we take daily turns in bringing in all our interesting cases and looking them over and exchanging views on same. We all find much interesting information in these meetings.

"From 3 to 5 daily I attend a meeting of the Special Hospital Board, of which I am a member. This board consists of three majors at the head of each service and another captain and myself. All cases in hospital unfit for service or those whom operation would make fit for duty are sent up before us and we have to examine them from A to Z, then their complete history and what has been done for them, then decide what disposition is to be made of their case, either send them home as unfit for service or patch them up and return them to duty. This is one of the most instructive parts of the whole work as each case, no matter what the nature of the ailment must be reviewed and studied before action can be taken.

"Altogether this is a great game, the only sad feature is lots of work and the fact that we are getting poorer each day as one has to scrape pretty closely to make a living and for the first time in many years, when the month is up I find myself broke and anxiously waiting for the day when the "Ghost Walks." But it is all for a good cause and when one thinks of the help we are to the poor fellows who are giving up everything and how grateful they are to us for our help, one feels amply repaid for the sacrifice and in later years when the barbarian one shall have been properly dealt with and civilization freed from danger of this monster who respects neither woman nor child, then proud indeed can be the man who, when asked what he did for his country in the great world war can look him in the eye and say I did my duty.

"Well enough of this—when I get wound up on the subject I never know when to stop and the stories of many unspeakable things that have happened to the poor unfortunates over there make me wish that we had five million men ready instead of two million."

Respectfully yours,

EUGENE WAHL, JR.

McLEAN COUNTY

The last regular meeting of the McLean County Medical Society met at the City Hall, April 9, 1918. President Frank Fisher called the meeting to order. The following officers were elected: President, F. L. Wakefield, Heyworth; vice-president, Wm. Young, Bloomington; secretary, A. Bernice Curry, Bloomington; censor, Dr. W. E. Nieburger, Bloomington; delegate to State Medical Meeting, Dr. Frank Fisher; alternate, Dr. E. P. Sloan.

Dr. A. Bernice Curry, Medical Director for the Tuberculosis Dispensary, gave a talk on "The County Tuberculosis Sanatorium and Dispensary."

DR. A. BERNICE CURRY, Secretary.

PIKE COUNTY

The Pike County Medical Society met at the Pittsfield House, Pittsfield, Ill., on April 25, 1918, for its annual business meeting. Dinner was served to all members present at the hotel and after that the Society adjourned to one of the large rooms for the scientific part of the session. The minutes of the last session were read and approved, preceding which Dr. R. O. Smith of Pittsfield was elected president *pro tem* in the absence of Dr. J. R. Pollock of Nebo, the present chairman.

A report was made by Dr. Peacock relative to the fees paid by the County in indigent cases. It showed a substantial increase in fees granted by the County Supervisors in this group of cases.

The secretary then read a letter from Dr. Franklin Martin concerning the formation of a Volunteer Medical Service Corps, made up of those physically disqualified or beyond the age limit physicians, who are not able to pass the examination for entrance into the Medical Reserve Corps of the Army.

The Society unqualifiedly and unanimously enclosed the proposition and all signified their willingness to at once to become members. The communication, of the necessity for 5,000 increase in the army and 2,000 in the navy of medical officers, was also read and steps will be taken to help promote that worthy object in this county. A considerable number have already been examined, a number have been rejected as well as accepted but as the necessity becomes more obvious, just so certainly will more physicians offer their services to assist in the great and glorious work of assuring the perpetuity of democracy in this world.

Election of officers for the following year resulted as follows: president, Dr. F. S. Gay, Rockford; vice-president, Dr. R. O. Smith, Pittsfield; secretary-treasurer, Dr. W. E. Shastid, Pittsfield; delegate to the State Society, Dr. L. S. Lacy, Pittsfield; alternate, Dr. S. B. Peacock, Pittsfield.

It was expected that Dr. Kirk Shawgo of Quincy, would read his paper on "Abdominal Distress due to Colic Spasm," but on account of mud and weather conditions he was not able to be present.

Dr. L. S. Lacy of Pittsfield, read a comprehensive paper on the subject of "Our Teaching," the viewpoint being, that the relation of the doctor to his patient is such that there is a necessity of teaching him correct habits of life as well as to prescribe for his condition while he is sick. The instructive and spirited discussion which followed showed that many had thought along these lines and that ultimately the laity will profit by these interchanges of professional views.

The president of the County Anti-Tuberculosis Association was accorded the privileges of the floor and presented reasons for a Free Anti-Tuberculosis Sanitarium.

His presentation was well received by the Society and will be further discussed from time to time.

Society adjourned at 5 p. m.

W. E. SHASTID, Secretary.

WASHINGTON COUNTY

Addieville, Ill., April 14, 1918

The Washington County Medical Society held its regular meeting in Nashville, Ill., in Dr. P. B. Rabeneck's office Thursday afternoon, April 11. Eight members were present, and an instructive and interesting meeting held. Dr. Jas. McIlwain, Okawville, was elected president; Dr. J. J. Troutt, Nashville, vice-president, and Dr. H. Schmidt, Addieville, secretary. Dr. P. Babeneck read a very interesting paper on Neuresthenia, which was discussed by all present. Dr. S. P. Schroeder reported several cases of cancer, which were also discussed by all present.

Three new members were taken in.

A resolution was adopted that we conform to the principles of the medical ethics adopted by the house of delegates at Atlantic City, N. J., June 4, 1912.

It was decided to keep up the dues of members of the society that were serving their country.

H. SCHMIDT, M. D., Secretary.

Personals

The following Effingham county physicians have recently joined the colors:

First Lieut. John W. Dunn of Dietrich, left November 3. He is "somewhere over there" as medical officer of the 222nd Aero Squadron, U. S. Army.

First Lieut. J. T. Breakey, Mason, left January 1 and Capt. C. F. Burkhardt, Effingham, left April 1. The last two are in training at Ft. Riley, Kan.

Dr. George A. Lighte, Tallula, has been ap-

pointed resident medical officer for the Rock Island Military District.

Dr. Joseph P. Comegys, Rock Island, has been appointed federal physician for the examination of prisoners arrested in the sanitary zone around the Rock Island Arsenal.

Dr. G. Gwin Taylor, Elkhart, has been made medical supervisor of sanitary military zones in Illinois, comprising the territory around the Rock Island Arsenal, Camp Grant, Rockford, the Great Lakes Training Station, Fort Sheridan, Scottfield, Belleville and Chanute Fields.

Dr. Cyrus T. Foster, city health commissioner of Rock Island, has been appointed commissioner of the sanitary district of Rock Island by the state board of health. Dr. Henry S. Bennett has been given a similar appointment in the Moline territory.

Dr. and Mrs. C. W. Geiger of Kankakee, have returned from a tour of California.

Dr. James Pankhurst, a graduate of Rush in 1868, after fifty years' practice in Grand Detour, has been elected supervisor of the township.

Lieut. H. H. Rogers, M. R. C., of Canton, was ordered to Fort Riley.

Dr. E. W. Sikes of Freeport, has been commissioned first lieutenant, M. R. C., and ordered to Fort Riley.

Dr. J. W. Geiger of La Salle, has been commissioned lieutenant, M. R. C., and been ordered to Fort Riley.

Lieut. H. C. Koch, M. R. C., U. S. A., stationed at Fort Riley for some time, was ordered to Chicago for special course of training.

Dr. H. H. Rogers of Cuba has been commissioned first lieutenant, M. R. C., and ordered to active duty.

Dr. Thos. Bath of Bloomington, a regimental surgeon with the 6th Ill. Inf. in the Spanish-American war, has been commissioned Major in the Medical Department, U. S. A.

Dr. Walter Ellis of Grayville, who enlisted as a lieutenant, M. R. C., has been commissioned captain.

Dr. C. D. Gulick of Urbana has been commissioned first lieutenant, M. R. C., and ordered to Camp Oglethorpe, Ga.

Dr. H. G. Hirschle of Canton has been commissioned lieutenant, M. R. C.

Maj. J. R. Hollowbush of Rock Island has been assigned as chief of the hospital at Ellis Island, N. Y., the War Department having taken over the hospital from the immigration buerau.

Capt. J. F. Percy of Galesburg and Lieut. A. F. Stewart of Oneida, both members of local exemption boards, have been called into active service.

Dr. S. M. Marcus of Chicago has been commissioned captain and assigned to the aviation corps at Kelly field.

Dr. Arthur H. Beebe of Stillman Valley has been commissioned captain, M. R. C., U. S. A.

Dr. Edson D. Fowler, captain, M. R. C., has completed the course in orthopedic surgery at the University of Pennsylvania, and been assigned to the base hospital at Camp Shelby.

Dr. Elmer H. Best of Freeport has been commissioned captain, M. R. C., and ordered to report at Camp Greenleaf, Fort Oglethorpe, Ga.

Dr. I. W. Bach, lieutenant, M. R. C., has been assigned to Camp Upton, N. Y.

Major Buell S. Rogers has resigned from the medical department of the administrative staff of the Illinois National Guard.

Drs. E. S. Hamilton and E. N. Greenman of Kankakee, first lieutenants, M. R. C., have been ordered to base hospital No. 14 at Camp Custer, Mich.

Dr. E. C. Frauing of Galesburg, and for several months in the service at Camp Dodge, has been commissioned major.

Dr. J. E. Clark of Streator has been commissioned first lieutenant, M. R. C.

Dr. T. B. Knox of Quincy has been commissioned captain of a company of the 312th ambulance corps at Camp Dix.

Dr. C. E. Smart of Beardstown has been commissioned first lieutenant, M. R. C.

News Notes

—Quack doctors and dentists are having a lively time, thanks to the state department of

education and registration. It is said that many arrests are pending. One dentist in Chicago is said to have been in practice over ten years without a license!

—A hospital has been established in St. Cloud, near Paris, by a group of people of Lake Forest, headed by Mr. and Mrs. Harold Bryant, for the use of American soldiers, with accommodations for twenty-five patients.

—Under the direction of Major Philip Schuyler Doane, M. R. C., U. S. Army, the Emergency Fleet Corporation in Washington is organizing a welfare service for its thousands of employes in that city and in the shipyards on the sea coast and the Great Lakes.

—The incoming staff of the Cook County Hospital was entertained by the outgoing staff at a banquet and vaudeville program in the Hotel Sherman April 16. Dr. Morris Fishbein was toastmaster and among the speakers were Dr. Karl Meyer, Dr. Joseph Beck, Dr. George W. Thompson, Dr. John Nuzum, Dr. Arthur B. Rankin and John Healey.

—Five young women doctors, assigned as internes in the Cook county hospital, were guests of honor recently at a spread at the hospital, given by woman doctors who were formerly internes in the hospital. The young women are Dr. Ethel Davis, Dr. Marion Cole, niece of Dr. Marion Ousley Russell; Dr. Marion Lewis, Dr. Johanna Heurmann, and Dr. Josephine Kennedy. Dr. Clara Seippel was in charge of arrangements.

—The department of registration and education of Illinois has adopted the requirement that hereafter the examination for the license to practice medicine in Illinois will include practical examinations in pathology and bacteriology; surgery and gynecology; medicine, including pediatrics and neurology, and diseases of the eye, ear, nose and throat. These practical tests will be held at the Cook County Hospital, Chicago, immediately following the written examination.

—At a meeting of the Illinois Public Health and Welfare Association, held in connection with the Better Community conference in Champaign April 5, Dr. John A. Robison of Chicago was elected president and M. W. Cowles of the State Department of Public Health, Springfield, secretary-treasurer. Dr. Robison succeeds Dr. George

Thomas Palmer of Springfield as president and Mr. Cowles takes the place of Lieutenant Paul Hansen, now in military service in France. Dr. C. St. Clair Drake, director of the State Department of Public Health, was elected honorary president. The other officers elected are Samuel A. Greeley of Chicago, first vice-president; Dr. W. H. Gilmore of Mt. Vernon, second vice-president; Dr. H. N. Heflin of Kewanee, third vice-president.

The meeting was devoted to the discussion of public health problems of the war, with special consideration of tuberculosis, venereal diseases and child welfare.

—Twenty-eight physicians and two dentists from Rock Island, Davenport and vicinity are in the service of their country, according to a list of names compiled by Dr. Louis Ostrom, president of the Iowa and Illinois Central District Medical Society, and presented at the regular meeting of the society April 11, at the Rock Island club.

In this section of Iowa and Illinois approximately 25 per cent. of the physicians have enlisted. Herewith are presented the names of the doctors in this community in the service:

Rock Island—J. R. Hollowbush, R. B. Miller, Alfred Stocker, F. C. Walsh.

Moline—A. Henry Arp, H. S. Bennett, A. E. Kohler, A. D. West.

Davenport—L. Allen, C. E. Block, H. P. Barton, E. O. Ficke, W. E. Foley, R. R. Kulp, J. V. Littig, F. H. Lamb, Fred Lambach, J. F. Murphy, B. J. McCarthy in foreign service, P. Schroeder, G. W. Frank.

W. D. Chapman, East Moline.

A. E. Hansen, Silvis, Ill.

J. D. Blything, Battendorf.

William Johnson, Princeton.

Dr. McIntyre and L. E. Schaffer, Walcott, Ia.

M. D. King, Geneseo.

J. D. Klineschmidt, Aledo.

Benjamin Sherrard and S. A. Hainline in dental corps.

Marriages

LIEUT. FRANK GARM NORBURY, M. R. C., U. S. Army, Boston, on duty at Camp Devens, Mass., to Miss Mary Elson.

MATHILDA OLSEN ENNIS, Chicago, to Mr.

George A. Cowden of El Centro, Cal., at San Diego, Cal., January 1.

LIEUT. JAMES WALTER WELLS, M. C., Ill. N. G., to Miss Melissa Kirkpatrick, both of Waltonville, Ill., March 22.

CAPT. URBAN BUNYON HARRIS, M. R. C., U. S. Army, on duty at Camp Funston, Kan., to Miss Mary Holabird, both of Chicago, March 30.

LIEUT. HARRY EUGENE VANDER BOGART, M. R. C., U. S. Army, Chicago, to Miss Gertrude Berkey of Goshen, Ind., at Chicago, recently.

Deaths

CHARLES HUMPHREY TREADWELL, M. D., Chicago; Harvey Medical College, Chicago, 1905; aged 46; died at his home, March 24, from diabetes mellitus.

THERON DICKEY LOCKHART, Chicago; Trinity Medical College, Toronto, 1896; aged 45; formerly a member of the Illinois State Medical Society; died in Birmingham, Ala., March 22.

LIEUT. JULIAN NEAL DOW, M. R. C., U. S. Army, Arcola, Ill.; Bennett Medical College, Chicago, 1915; aged 24; on duty with the British Field Hospital Service; was killed while on duty in France, March 27.

LUCIUS N. HENRY, M. D., Ripley, Ill.; Miami Medical College, Cincinnati, 1890; aged 48; a member of the Illinois State Medical Society; died at Kansas City Sanitarium, March 26, from ulcer of the stomach.

JAMES EDWARD BUCKLEY, Chicago; College of Physicians and Surgeons, University of Illinois, 1905; formerly a Fellow of the American Medical Association; died in Washington, D. C., April 2, from wounds, self-inflicted.

RANDALL THOMPSON, M. D., Kildeer, N. D.; Chicago College of Medicine and Surgery, 1908; aged 42; formerly a member of the Illinois State Medical Society; died in a hospital in Mandan, N. D., March 11, from acute nephritis.

LIEUT. GEORGE JACKSON BRAND, M. D., M. R. C., U. S. Army, La Fayette, Ill.; Loyola University School of Medicine, Chicago, 1910; aged 32; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; on duty at Fort Sill, Okla.; died February 12, from pneumonia.

WILLIAM PARSONS, Chicago; Rush Medical College, Chicago, 1874; aged 74; a Fellow of the American Medical Association; formerly chief surgeon for Armour and Company and Swift and Company, in the early days of the packing industry; formerly surgeon for the Chicago Junction Railroad; died at his home, April 6, from gangrene.

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Original Articles

SOME EUGENICS PROBLEMS THAT DEMAND SOLUTION.*

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CHICAGO.

Self-preservation is generally conceded to be the first law of nature. It certainly is one of the chief compelling forces in human conduct. During the forty years preceeding the great world war from which we are now suffering, great progress was made in prolonging the life of the individual. For this advance, the science of medicine is chiefly responsible, though better governmental control in the protection of human life is entitled to its share of the credit.

If the first law of nature is self-preservation then, surely, the second law of nature is the propagation of the species. This force influences the actions of the higher animals as well as human conduct fully as much as does the first, though in a more subtle manner. It is much less thoroughly understood and hence not nearly so well under control. We all know that the higher animals, as well as man, will exert themselves to the utmost to defend their lives; we all know that parents will freely sacrifice their lives to defend their offspring; but most of us do not realize that, when the sex urge is in full control of domestic animals and the higher wild animals, they will freely brave danger and frequently suffer death in order that the second great law of nature may be fulfilled and, while in the very highly domesticated animals and also highly civilized man, this instinct is either not so strong or under better control, it is a force to be reckoned with in life and carefully considered in all our discussions of this subject.

While it is impossible to ascertain the exact moral status of prehistoric man, enough is known of moral conditions, say, three or four thousand years ago to justify us in the conclusion that little or no progress has been made in sex morality since the beginning of written human history. In proof of the above statement, let us briefly call attention to the prevalence of prostitution, illegitimacy, abortion, polygamy and venereal disease at the present time.

Some twenty years ago, while a post-graduate student in Vienna, my room-mate and I frequently walked home from the Royal Dramatic Theatre after the evening performances. The police regulations in Vienna prohibited soliciting on the streets until 10:00 o'clock in the evening, after which time the streets were filled with these women who accosted men singly or in pairs. We invariably saw scores of them and were accosted many times in our walk of about a mile.

During my studies there I took a course in obstetrics and gynecology in the Alte Allgemeine Krankenhause, where at that time approximately nine thousand births occurred annually, at least two-thirds of which were illegitimate—this from a city smaller than the city of Chicago. At that time and up to the time of the present war one child in seven or a little over fourteen per cent. of the children born in Vienna were illegitimate. It was no uncommon thing to find a woman who was giving birth to her second or even third illegitimate child, sometimes each one from a different father, and often the mother could not even tell positively who the father was.

One day in discussing these problems with our instructor, who was the first obstetrical assistant in this clinic, and who had had a large experience in this particular field, I made the remark that, with prostitution as flagrant and illegitimacy as common as it evidently was in Vienna, surely Vienna was not cursed with the abortion evil to

*Read before the Eugenics Education Society of Chicago, Nov. 16, 1917.

the extent that large American cities were. I remember very well how the instructor threw his arms over his head and in the characteristic German way said, "My God, that surely cannot be worse in America than it is with us." He then went on to state that among the so-called higher classes, who had the means to be aborted, the practice was very common.

When in addition to these evils common everywhere in the so-called civilized portions of the globe, we contemplate the prevalence of polygamy or its modern substitutes (wife abandonment, multiple divorces, and the affinity business), infanticide, child-abandonment, venereal disease and the numerous secret sex vices about which statistics are almost impossible to collect, but which are very common as every physician knows, surely my statement that "so far as we know, little or no progress has been made in sex morality since the beginning of written human history" is not too strong.

These conditions are simply cited to recall to our minds the fact that something is fundamentally wrong with the sex life of man and that a serious attempt should be made to remedy these evils. Nearly as many causes for sex immorality can be enumerated as there are persons interviewed and nearly as many remedies suggested. Permit me to here present a few of the reasons which are so often given as the causes of sex immorality. I give them in the order in which they occurred to me and not in the order of their importance, nor do I concede that all of them are important; poverty, want and overcrowding, with its subsequent malnutrition and disease; affluence and self-indulgence; too much work and no play; too much play and no work; faulty home training; faulty education; false standards of life; too great love of finery; craze for easy money; voluntary and involuntary celebrity; love of ease and comfort with unwillingness to be bothered with children; lack of proper amusements; segregation of vice; police corruption; alcoholism; vulgar plays; salacious books; suggestive movies; irreligion and false religion—some claiming that too much attention is being given to a consideration of the future existence of man and not enough to every day ethics, while others claim the contrary.

A simple recital of the possible causes just given will scarcely convey the idea of the mag-

nitude of the problem. Let us briefly consider more fully just one of the causes above mentioned, namely, "too much play and no work." The old adage, "An idle brain is the devil's workshop," is generally conceded to contain much truth. The parents, who think that their children are too good for physical work, that their children must be given every educational opportunity and every chance to have a good time, who feed their children on rich, particularly high protein animal foods and much sweets, and prevent them from doing a reasonable amount of hard productive physical labor, are exposing them to unnecessary danger along these lines. My experience is that these young people are constantly skating on thin ice—ice that is likely to break before their life's journey is complete. Conversely, it is my confident belief, other things being equal, that the young man or the young woman who has learned to love productive physical labor, to love his books, to have an interest in the higher things of life and who can play with enthusiasm when the opportunity presents itself and then has the sense to do all these things moderately, is relatively safe against moral corruption.

Some will seriously and honestly ask themselves, "What has all this to do with eugenics." Just this; if any generation undermines its virility by venereal disease, alcoholism or other forms of debauchery, or by any of the vices enumerated, future generations must necessarily suffer. If, for economic reasons or from selfishness, those best fitted and able to bear and nurture children refuse to do so, future generations will be the worse for it, particularly is this true if during this period those least fitted for motherhood and fatherhood will breed prolifically and indiscriminately and then have organized society rear their offsprings. The chances of a mentally, morally or physically defective person having a numerous progeny, a large per cent. of whom will attain maturity and will in turn have numerous offspring, is probably greater today than it has ever been in the world's history. This is true because society, through its philanthropic and charitable agencies, has taken upon itself to provide for and rear the offspring of those who are unable or disinclined to do it themselves. This has a tendency to disproportionately perpetuate those with undesirable traits. In order to make this point a little more clear, permit me to briefly

state just how this works out practically and what a serious handicap to race improvement this may become unless some means of counteracting it is discovered. A flock of say a hundred ewes is likely to contain one without maternal instinct, one that will not pay the slightest attention to its offspring. Unless man interposes, which is usually not profitable, this unfortunate lamb succumbs and this undesirable trait does not make much headway. This lack of maternal instinct also exists in the human race. In the past, organized society has paid little attention to these unfortunate children and infant mortality among them was disproportionately high. Today, organized society concerns itself more and more about these children and they are being reared in greater and greater numbers. If one will inquire about the antecedents of children in our orphan asylums, one will find a surprisingly large per cent. of them are children who have been abandoned by one or both of their parents. In addition one finds that many of these parents continue to breed either with the same partner or another and, unhampered by the necessity of providing for their offspring, become the parents of a disproportionately large number of children. These children are being raised by the State or by charitable organizations and, as they are likely to inherit the same trait, the per cent. of people who have little or no paternal or maternal instinct, as the case may be, must necessarily become greater. When we add to this the fact that many splendid persons with strong maternal instincts are debarred from parenthood because of an unwillingness to bear children unless they can provide for them at least reasonably propitious environment, the problem becomes more and more serious.

Many sporadic attempts to overcome sex immorality and all its attended evils have been made in the past—attempts which have served a valuable purpose in keeping the subject before the public but which in themselves have accomplished little of permanent value. I need but mention the ever-recurring anti-vice crusades, including the abolition of the segregated districts and health inspection of the prostitutes, the sterilization propaganda of twenty years ago, the purity talks and sex instruction to the young; more recently, the discussion of the abortion evil, the control of illegitimacy, venereal disease,

birth control and health certificates for marriage. These attempts by various groups have been directed principally at the solving of individual problems without making a serious attempt to correlate them or to solve the underlying greater problem—the problem of normal sex life and sex physiology.

If the practical common sense man of affairs is approached on these subjects, he usually asks the following question, "What can be done about it?" If the pet solution of the first speaker is given for an answer, it is usually met with another question, "What has been accomplished along these lines during the past fifty or one-hundred or one-thousand years?" If the first speaker is not an enthusiast and is thoroughly honest, he is bound to confess that very little has been accomplished. If he is an enthusiast and cites changes that have taken place in Chicago, for instance, during the last twenty years, he is usually answered by further questions, such as, "Do you honestly believe that conditions have markedly improved in Chicago, that prostitution is greatly on the decrease, that police protection, police graft and political graft are much less common than they were twenty years ago, that the modern call flat and cabaret are really a great improvement on segregated vice?" I have repeatedly been a listener when serious-minded men have earnestly discussed this problem and, while I personally believe that conditions have improved somewhat in Chicago in recent years, so far as commercialized prostitution is concerned, I am not at all sure that the other sex vices have been ameliorated and, personally, I do not believe that there will be any marked improvement until the whole problem of sex physiology is put on a secure scientific basis. I do not believe that the co-operation of any large number of serious-minded, right-thinking men and women can be secured until somebody has done the necessary preliminary work. This preliminary work must be undertaken by a relatively small group of self-sacrificing persons who possess the necessary training and the requisite experience and who are willing to give a certain amount of their time and stand a certain amount of abuse without hope of reward. I believe that this can be accomplished only by the co-operation of a number of persons because it is very doubtful whether any one person can ever master and

thoroughly comprehend all of the complex details involved in these problems. The science and art of eugenics are almost as complex as are the science and art of life itself, and he who thinks that all of these problems can be solved by a simple formula or even by a limited number of formulæ is, I am afraid, not going to get far or add much to their solution. The improvement of the human race is a slow and difficult problem and the best informed quite generally agree that there has been relatively little progress along these lines in say, at least, the last three thousand years.

I believe that now the time is opportune for work along this line. At the end of this great world's war great changes are bound to take place. New problems must be met and solved. The necessity for race improvement has never been so great. Biologists have laid splendid and enduring foundations for the work. Eugenics societies have accomplished a good deal. The one thing that the latter have accomplished is that they have made it possible for men to discuss these problems without excessive amount of abuse being heaped upon them. Last winter, for the first time, I believe, in the history of the Chicago Medical Society, the problem of birth control was scientifically discussed and, while little of real value came out of the discussion, the discussion went by without undue notoriety being attached to it in the daily papers. Twenty-five years ago no man in the active practice of medicine would have dared to appear before a medical meeting and discussed this problem as freely as it was discussed last winter, without the severest public condemnation or without running a great risk of losing his reputation and his practice. Medical men, who have spent fifteen or twenty years in building up a practice, cannot be expected to take the risk of losing what they have gained after such long continued efforts. I remember an incident which occurred while a junior medical student. The professor of obstetrics and gynecology for months received daily notes from senior students requesting him to instruct them in the prevention of conception. One day he announced that the next day he would lecture on the subject. Every seat was occupied. I will not repeat here what he told them as it is neither illuminating nor elevating. Suffice it to say, he gave them no real information and this for at least two very

good reasons: First, because he knew little or nothing of real scientific value about the subject; and, second, because he was a worshipper of the golden calf, and because of the fear that it might react unfavorably upon his practice. He would probably have refused to discuss this subject even had he possessed the necessary information.

As above stated, biology has laid the foundation for the solution of the problem, but biologists unaided and alone will not get very far in its solution because it is impossible for them to even collect, to say nothing of evaluating, the necessary data. A biologist might know all there is to be known relative to the laws of heredity of the pea and the primrose, the ameba, the potato bug and the mouse, and yet be unable on this basis alone to solve the problems of eugenics, because in man many new factors become operative of which I need but mention two, viz.: the inhibiting effects of conscience and the imperative necessity of permitting relatively free choice in the selection of mate. Civilized human beings possess a more or less highly developed conscience which in many instances exerts a powerful influence in determining their actions and which sometimes, as in a previously cited example, actually works against race improvement. In reference to the free choice of mates, permit me to observe that to seriously interfere with this prerogative of the young would take much of the romance out of life—one of the most compelling factors in human conduct. The great transcendentalist, Emerson, stated a profound truth, when he said, "Love is omnipresent in Nature as motive and reward"—a truth which the biologist would probably never have been able to formulate from his biologic data, based on plant and animal experiments alone.

Similar arguments could be given why other groups working alone, or single individuals, will probably find it impossible to solve these difficult problems. It will require the unselfish co-operation of the best in every group. In this connection it might be of interest to observe that when Professors Tehermack and Rumpke, two of the foremost European authorities on heredity, visited this country seven years ago, they spent as much time discussing the laws of heredity with Q. S. Simpson, a farmer of Palmer, Ill., as they did with any of the teachers of the subject in our universities and in their published report of their studies in this country, covering one hun-

dred sixty pages, they devoted eight pages to the discoveries and observations this lone investigator had made. This fact is cited to substantiate the contention that these problems will not be solved until we can get the co-operation of a large number of thinking men and women—individuals with large and varied life experiences.

Permit me now to ask a few questions, a small proportion of the great number which must be satisfactorily answered before we can hope for much progress.

Is prostitution ever justifiable? Most of us here will probably answer this question with a decisive "No" and yet there are many right-thinking people who will say just as emphatically that it is absolutely justifiable, unavoidable and necessary. This honest difference of opinion exists not only in reference to the questions that I am going to ask, and so long as there is little or no scientific data upon which to base our opinion, we must, in fairness, concede to others the same right to their opinion as we claim to ours. I repeat the question, "Is prostitution ever justifiable, and if so, under what conditions and under what control? Is it best controlled in segregated vice districts? Does health inspection of the prostitutes minimize the evil? If not justifiable, how can it be stamped out or at least reduced to the minimum?"

Is illegitimacy ever permissible, and if so, under what conditions? If illegitimacy is not to be countenanced, what are the factors that will reduce it to the minimum and what should be the legal status of the illegitimate child?

Is abortion ever permissible, and, if so, what are the medical indications or circumstances which justify its performance? If never justifiable, how can it be checked?

Is polygamy ever justifiable, either open and legalized, or clandestine in the now so prevalent form of affinities?

Is the requirement of a health certificate for marriage desirable?

In this way we may ask ourselves many questions about the whole list of sex vices and almost numberless forms of sex immorality, and we must find the correct answer for these questions before we may hope for any decided amelioration of these evils and before we may look for marked improvement in the spiritual, intellectual and physical status of the human race. In order to

emphasize and to bring to our consciousness the prodigious amount of investigation and work this will require, let us go a little more into detail and ask ourselves some further questions in reference to just one of these problems. For convenience, I will select "birth control." The first question which we would naturally ask ourselves in the consideration of this subject, as in the others, is "Is birth control ever justifiable and desirable?" A simple dogmatic "Yes" or "No" will get us nowhere. There are many subsidiary questions which must be studied and satisfactorily answered before the main question can be solved; many objections must be considered and checked up by practical experience.

In the past a number of factors have been operative to prevent over-population, principal among these may be mentioned epidemics, famine and recurrent wars. Sanitation has almost wiped out epidemics and modern medicine has greatly lowered the death rate, particularly among infants, and thus greatly increased life expectancy. "In¹ the last fifty years the mortality rate in Chicago has been reduced from thirty-seven per thousand per annum to fifteen per thousand per annum. In the registration area of the United States during the fifty years from 1851 to 1901, life expectancy has been increased from 35.3 to 47.6.^{2 and 3} If the same proportionate rate of increase has continued since 1901, the average life expectancy at the present time would be a little over fifty years, so that every child born in the year 1917 may expect to live on an average of at least fifty years as against 35.3 years sixty-five years ago."

In countries that are not already over-populated and in which the government has been stable and reasonably honest, famine has not played an important part in keeping down the population in recent times and I take it that no nation would deliberately throw away the benefits that can be derived from better sanitation and preventive and curative medicine, or that it would voluntarily choose famine to prevent over-crowding. War, one of the methods by which savages prevented overcrowding, seems still to be popular.

One of the questions before the peoples of the earth is "Are we going to continue to fall back

1. Ochsner, Edward H.: *Illinois Med. Jour.*, March, 1916.

2. Core, John K.: Paper read before International Congress of actuaries.

3. Rogers, Oscar H.: Chief Medical Director of the New York Life Insurance Co., personal communication from.

upon this law of the savage when conditions demand or are we going to find a better solution of the problem?" Even before the present war began, some nations tried to solve the problem by resorting to abortion in ever increasing numbers or by crude unscientific methods of prevention of conception. Another very common method of preventing over-population has been voluntary and involuntary celibacy—a subject which I have not heard discussed much at meetings of this kind and, yet, one which I believe is of the utmost importance and one which was forced upon my attention twenty years ago, while a post-graduate student in Hamburg. One day one of the "Dioners" in the Pathological Laboratory was particularly grouchy and I asked him what the trouble was. Being an American, he opened up and told me all about it. He told me that he had just seen the director of the hospital and asked his permission to marry, which the director had denied him, saying that a man with his salary could not support a family and, hence, he could not give his consent, adding that if he did marry without his consent he would be compelled to dismiss him from the service. This aroused my interest in the problem and I began to make some inquiries and found that the assistant physicians in the institution, many of whom were over thirty years of age, also were unable to get married because they could not possibly hope to support a wife and family. Several told me personally that there was only one hope for them in this regard and that was to find a rich girl somewhere who would have them. In our large cities there are today thousands and thousands of men between the ages of twenty-five and thirty-five whose salaries are so small that it would be impossible to support themselves and wife and one or two children in ordinary decency. As a consequence, these men prefer to remain single. To me this is a very serious condition, as I am convinced that long-continued celibacy persisted in by many members of a community favors sex immorality, which in turn favors venereal disease which again in turn must lead to race degeneracy. There is another bad feature to celibacy which I have never heard mentioned in these discussions. I believe I have observed that the man and woman who have been guilty of sex offenses before their marriage are much more likely to disregard their marriage vows than those who have always lived clean,

moral lives. To me these matters are matters of serious import for I do not believe any nation can become great or remain great whose sex morality is not of the highest. I am a firm believer in monogamy as against polygamy or promiscuity. I believe there is a sanctity in the consecration of the life of one person to that of another person and their mutual offspring, which has an ennobling influence upon them all and for which there is no substitute. Are we willing to continue, as we have done in the past, with war, famine, pestilence, abortion, prostitution and venereal disease, or are we ready to seek and find a better way, and would the application of the scientific facts now known to physicians for the prevention of conception in suitable instances be a solution of these problems? If so, by whom should this knowledge be disseminated and under what circumstances? These, I feel, are some of the problems that we must solve and I believe they can be solved. I am a firm believer in the doctrine that all human problems are possible of solution, provided only the right people can be found to do the work and provided also that the problems are approached in the right spirit and tackled with the right determination.

2155 Cleveland Ave.

SURGICAL RECONSTRUCTION DURING AND AFTER THE WAR.*

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War destroys not only an enormous number of men, but cripples many million human bodies. There will be such a vast number of injured in all the belligerent countries who will remain maimed for the rest of their lives that human activities and economic conditions will suffer a great deal for a long time to come.

Human progress depends upon the very accurate interchange of ideas and division of labor, and since during this holocaust a great many of these agencies are crippled, the whole machinery of civilization will suffer. But the war will come to an end and at that time humanity will take stock of what has been destroyed and what has been damaged and it will begin to repair with a great deal of energy and certainly will succeed

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to such an extent that it will be working for progress again.

Reconstructive work, however, must be undertaken in an organized, well thought out manner. This war has proven that preparedness, organization and efficiency are of the greatest value, and it is, therefore, important that even at the time of war, work and conditions of peace should be considered, just as at the time of peace preparations for war should be considered. It is not too early, therefore, to speak of reconstruction of human material after the war, even now. While we are engaged in war there is only limited time and leisure for reconstruction, although a great deal is accomplished even now. However, the facilities are not as good and the constant impending new fatalities and injuries hamper the work and a tremendous amount of material will have to be worked up after the war, so that we should now begin to prepare for the task.

We can discuss this subject by trying to answer three questions:

First: Can the human body, injured and crippled, be built up to its former usefulness and activity, or is such labor useless?

Second: What has been done in the past and what are the experiences of medical men and surgeons in the line of reconstruction upon which we build up a system?

Third: What can and ought to be done now during the war to prepare for such after-war reconstruction?

Experience and practical demonstration have shown that a great deal can be done in reconstruction of human bodies, in two ways: *First*, Organs which are partly destroyed by injury, nose, lips, cheeks, ears, can be restored through plastic surgery to almost natural appearance. A great field in this respect is open to the art of cosmetic surgery. People who would be objectionable with disfigurements and who could not appear in public will be made presentable. Their mental depression, which is inevitable, owing to such destruction, will be removed. They will have again a share in life and a share in work. *Second*, Organs can be restored physiologically and functionally. For instance, hands and feet which have been maimed, paralytic hands which have been made useless through injury to nerves, contractures, badly united fractures, can be made over to such an extent that the extremities are

useful and almost as effective as they were before the injuries. Prosthetic apparatuses have made such an advance in perfection that they can replace hands and feet, working in almost the same way as natural extremities. Of great interest in this respect are the kineplastic amputations, in which use is made of remnants of muscles for function. Amputation stumps are made with a view of using the muscles for attachment of the prosthesis in an ingenious way.

But there is a *third* method which has proved to be very effective, the teaching of substituting the activity of certain organs through others. For instance, to substitute the right hand through exercise of the left or to transfer activities of the hands upon the feet, to replace various actions, activities of the hand by activities of the trunk, neck, and so on.

These are the most modern methods of reconstruction. During the war there has been an effort made in the different countries to develop them; such, for instance, as the use of hands and their tactile sense in cases of blindness, replacing certain activities by the touch which used to be trusted to the eyes.

All these methods must be studied first. We must develop teachers in these lines who can be put to work at once when such a demand for restoration turns up. One has not time to develop physicians when the sickness is existing already; otherwise, it will be an improvised and not an expert help.

Impairment of mental qualities and attainments will offer great difficulties to reconstruction. There will be hundreds of thousands of individuals who are not maimed in their bodies but who are maimed in their mental functions, who are mental wrecks, who are nervous wrecks, hysterical and otherwise defective. Their otherwise useful organs and useful attainments are without value. This class of defectives will require particular education in reconstruction which is not surgical, but medical, and of equal importance. There are, for example, people who, through shock and fright, have become partially paralytic, who have absolutely the physical use of their nerves but have lost the mental control of them. Such cases are described by observers and suggestions as to their treatment are drawn up and practically applied.

The next important field in this line is

disorders of the heart and kidney, which have been affected during this long siege of war. Many functional heart and kidney diseases have developed, which certainly can be reconstructed to normal physiological function if timely taken and treated.

The *second* question: What has been the experience of the profession in the past?

There is a good deal of literature written on reconstruction and a great deal has been done by our government and private agencies on preparation. We all have read about the formation of reconstructive hospitals and orthopedic surgeons of renown who have been selected, in most instances, to prepare such institutions on a large scale, expecting the number of inmates to be quite numerous. It seems that the necessity for this propaganda has impressed the authorities strongly, through the advice of our European colleagues, who have learned by experience that it is necessary to reconstruct. In the first place, the immediate healing of a large number of injured and the re-establishment of perfect health allows a large percentage of soldiers to render service again during the war. There is the greatest inducement for the belligerents to enter upon this field, and the experience of France and England has been given to us. Reconstruction returns a large number of cripples to useful employment and work to overcome the great losses by death and incapacity.

The *third* question is: What can and ought to be done during the war for preparation? A great deal can be done now. While the destruction continues and is perhaps at its height, the elements back of the firing lines are working with an eye on the future, to organize and develop a system for present and future activities. The immediate injured are taken care of by the base hospitals, the convalescing men by forces who are being trained for the work in reconstruction. There should start in this country, and this is the most important point I wish to make, a school of plastic surgery, for men who are already trained in surgery but who have never had occasion to do much plastic surgery; men who will do this kind of work with a certain degree of love for this specialty; who will devote if not their lifetime at least a part of their next few years' activity to plastic work.

I have been interested in this line of work for

the past thirty years and have in preparation a book on plastic surgery, which gives the results of my experiences during these years. I have at a few lectures and during clinics, demonstrated to the military surgeons the principles of plastic surgery, but I find there is an enormous task before us for plastic work, because there is a very small number of even the best surgeons who have paid much attention to plastic surgery. It is work which even abroad is relegated to only a few who love and are experts in that kind of work. It is work which in peace times does not offer much money or glory. A case of appendicitis when operated on and cured leaves a grateful patient who appreciates the result; but in the case of a repaired nose, the patient sees every day in the mirror the result of the surgeon's operation. In ninety cases out of a hundred it is a patient without or with limited means; the result is usually not ideal, because not much energy can be spent on the case and the surgeon who does the work in many instances is at best an amateur in that work. In peace times the number of plastic cases falling to the lot of even a busy surgeon is comparatively small. Therefore plastic work in peace times is not very desirable and the number of plastic surgeons is very small. As to plastic work in peace times, comprising repair of tendons, muscles, nerves, the material is scant and the results equally mediocre; the affected people mostly belonging to the laboring class, who when they cannot get any better results after the primary healing of the injury are satisfied with the poorer result and even forego the possibility of acquiring a useful arm or a useful hand, because it costs too much or keeps them too long from work, or there is often no available surgeon to do the work.

But when the number of people affected by injuries reaches into the thousands, there will be surgeons who will learn to do plastic work, either for the love of the work or the reward and will develop that branch of surgery to its highest degree. And there will be for the next ten or fifteen years an enormous amount of material. A magnificent library of tremendous size and beautiful shelves of well bound, well assorted, well distributed books, is useless without the reading public. The same holds good about a number of other institutions. When we go

through some of our hospitals, we find some of the most wonderful laboratories, the most modern instruments, the most beautiful buildings, but when we examine into the condition of the real worker in the laboratory, we will find that he is often of mediocre talent. In other words, buildings, books, and instruments are important but of highest importance are the prepared minds in these institutions. And if we do not want to fall into the same error with our reconstructive work, we must prepare not only the institutions but a vast number of men and women to be efficient experts in reconstructive work.

I believe then that the most energy should be expended on education of men and women. Buildings and laboratories and instruments are made and ordered very quickly and can always be supplied, but to develop minds and knowledge takes time. This cannot be rushed and it requires a great many teachers.

One of the most admirable things that our Surgeon General's Office is doing, it seems to me, is the sending of a number of men, individually and in classes, to clinics.

I would like to see constant classes develop and on the experience of the past in other countries who have had an enormous amount of experience in this line, develop men and women with a knowledge of this subject. When the time comes to do plastic work, reconstructive work, and when the material increases, then is the time to make use of these men. Let us then have plenty of these men in our country that we can lead in this branch of reconstruction, although we may not have as much use for it as the other countries who have been in the war for four years, while our participation has just begun. But let us prepare in time, and use the material for instruction of men and women interested in the work of reconstruction.

My suggestion would be that as much as possible plastic material should be entrusted and referred to those who are making a specialty of it, and that they should be supplied with as much material as possible in public institutions and private practice, and that with them should be assistants, those who are going to do plastic work later on; men who wish to develop in this specialty—continuous clinics from now on in plastic work in several places in this country. These

institutions ought to be so correlated that the assistants could be exchanged. That would be an ideal plan for raising a large number of splendid specialists in this line of work.

TUBERCULOSIS—THE PERIOD OF PROFOUND PERIL.*

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In accepting the invitation to address your section today it was not with the idea of presenting anything startlingly new to you, but rather with the idea of bringing still more closely to your individual attention what is undoubtedly the period of profoundest peril in tuberculosis; the period of greatest susceptibility, that is, the first five years of life, and the period which bears so strongly on the future health of our nation.

This is the psychological moment for us to give our best efforts and co-operation to the safeguarding of the health of the children. Never before have we had the wide spread National, State and Civic support that now obtains, nor has there been the terrifying need of it that now exists the world over.

It is also true that by safeguarding the health of children we are striking at the root of future disease in a much larger measure than has been recognized heretofore. Why it has not been done systematically for years past is a question, as it bears so strongly on the economic situation.

In looking over the literature of the last ten years regarding tuberculosis in children it is most interesting to see the strides that have been made in advance in diagnosis, in treatment and in recognition of its relation to eventual active infection. And it is even more interesting to see how surely everything points to the ultimate realization that the greatest fight against tuberculosis must be made, primarily, in the first decade of life. By so doing the future death rate in adults will be materially lessened.

For many years our chief concern in the fight against tuberculosis was the care of the advanced case, which always has been and of course always

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will be the greatest menace to a community. Later, in addition to our work with the advanced case, our special interest centered around the early case, to diagnose it in its incipiency and to provide the patient with such surroundings and care that he might at least have a fighting chance to overcome the infection. And still another strong weapon with which we have fought the spreading invasions of the tubercle bacilli has been the universal prophylactic instructions given to the laity.

The question of universal segregation of open tuberculous cases is not yet satisfactorily solved. The incipient case we know now is rarely of recent infection, but is the lighting up of an old tuberculous focus of quite, possibly, many years' standing. Countless incipient cases are undetected, undiagnosed and an unsuspected menace to others. The 100 per cent. efficiency in the care of the home case is so rare that it is a negligible quantity, even with the knowledge that one exposure alone may lead to an active infection.

Yet along these same lines I believe we have made greater advances than in regard to the one fundamental proposition, that is the prophylaxis of early childhood.

It is generally accepted that the greater number of tuberculous infections occur during this period to remain perhaps entirely latent until adult life when, owing to one cause or another, they become active and run the usual clinical course.

It is true, of course, that many individuals never succumb to the latent infection, and also true that many children are never infected. But that does not eliminate the fact that any child may become infected and that so infected it may develop tuberculosis in later years, nor recognizing this chance does it eliminate our responsibility in making active efforts to minimize their danger.

While the diagnosis of an incipient tuberculosis in adults requires special skill, years of special experience and special facilities and even then is sometimes doubtful, there are certain frank indications of the tuberculous infection and toxemia that will lead the general practitioner, interested in his patient, to make at least a preliminary examination. And in our present knowledge of tuberculosis no one is justified in ignoring them.

That it requires large experience, special training and, I believe, a special adaptability for the work to become expert in diagnosis is true, yet there is less danger in going astray in the diagnosis in adults than in children.

The diagnosis of tuberculosis in infancy and in childhood is most interesting, most fascinating and most elusive, and the manifestations of tuberculous toxemia take many bewildering forms, as we have all had occasion to learn, the constitutional symptoms and history often meaning far more than the physical findings.

A positive reaction to a von Pirquet test, in the first two years of life, is diagnostic of an active tuberculous process somewhere, but in later years is merely indicative of a non-active infection which, however, it must not be forgotten, may become active at any time.

Knowing that tuberculosis in infants under two years of age is fatal in a very large proportion of cases, and that during the first five years of life children are particularly susceptible to the infection, are we justified, for the sake of the future, in leaving them with tuberculous mothers or in families where they come in contact with tuberculosis in any form, without making strenuous efforts to find some means by which to protect them.

In 1909, with the interest, faith and loyal assistance of a few philanthropic women, I incorporated and opened a small hospital of sixteen beds for infants under two years of age, called The Lynde Hospital, in the southwest district of Chicago. It was established for the purpose of caring for the babies of tuberculous mothers, for contact cases, and also for other ill-nourished, puny babies, as we realized, even then, that to successfully fight the spread of tuberculosis it was necessary to strike at the root of the matter.

We were about ten years ahead of the times for, while our results were most gratifying and we proved to our own satisfaction that proper food, care and fresh air would make healthy, robust babies from much unpromising material, we could not make people generally, nor even our medical colleagues, see our point of view. Without the co-operation of larger, richer and better established agencies it was impossible for us to continue, as the financial burden was too heavy to maintain without assistance. The little hospital was closed at the end of two years, during

which time we proved, however, that ultimately our views would be accepted, for they were well founded.

In 1914 Dr. Alfred H. Hess brought the subject before the profession in this country in an article in the *Journal A. M. A.*, entitled, "The Neglect to Provide for the Infant in the Anti-tuberculosis Campaign," and in 1916 added a Preventorium for Infants under two years of age to the Farmingdale Preventorium in New Jersey. But even here, finding that the death rate among infants already infected with tuberculosis was alarmingly high, it was determined to only accept those giving a negative tuberculin reaction.

While we recognize that the death rate is high in infants, there are so many who overcome the infection that with an early diagnosis and immediate and efficient care, it seems reasonable to assume that the present death rate would decrease and that a hospital for positive cases is quite as imperative as a Preventorium for those that are negative.

In looking up the matter of special hospitals for tuberculous children, and especially infants, in this country, I find there are appallingly few, and considering the enormous number that are exposed to the disease it seems rather a short-sighted policy.

On the continent far more has been done in this direction than we have yet awakened to the necessity of doing here in the U. S., and the physicians there specializing in tuberculosis have advocated more insistently than we have the vital necessity of fighting the widespread ravages of tuberculosis from the very first moment of a human being's life.

Our open air and open window rooms in the public schools in this country, and it is with this country that we are most concerned, while they have met with much opposition and far too little support from the general public, have done a wonderful work towards raising the standard of health and resistance in the children attending them. No one who has ever worked in these schools and seen the marked improvement in the pupils remains skeptical as to their value.

Even more might be accomplished were greater facilities placed at their command, and by the addition of a little more capital much greater results could be obtained from that already invested. It becomes a straight business proposi-

tion and I firmly believe that the sooner the fight against tuberculosis is put on a businesslike basis the sooner appreciable gains will be obtained.

There are all too few open window rooms in this country now and they are all in the larger cities.

Tuberculosis does not confine itself to large cities alone, and we all have vivid recollections of ill-ventilated schools in smaller cities and in towns. Why should not they also have open window rooms in their public schools?

In a certain number of public schools, having open window rooms, there are kindergartens. With a comparatively small additional expense open window kindergartens might be established for the benefit of contact cases and anemic, ill-nourished children, instead of letting them drift, practically without care or observation, through the years of peculiar susceptibility.

The country-wide examination of children, now being made, should be productive of most helpful results, but I wish that each examination might have been supplemented by a von Pirquet test, properly given and recorded; that each child showing a positive reaction might have been so registered and then referred to the family physician, and that that physician might have been made responsible for the further periodic observation of the case. I am convinced that the greatest fight against tuberculosis in the future is to be made during the years of childhood and is to be made very largely with the aid of the general practitioner in close co-operation with those who specialize in this work and with the organizations equipped to scientifically combat it.

It seems a logical conclusion that with scientific and also, let me emphasize, common sense care of these children more can be done to control the spreading of tuberculosis than by enlarging or building a still greater number of Sanatoria for incipient or advanced cases.

No one of us in practice is satisfied to continually prop up a case by this means or that, if the primary cause of the trouble can be found and removed. Why shouldn't the same method be followed in tuberculosis? And why, as the infection occurs early in childhood, should not at least as great efforts be expended to save children as adults? The economic side of the proposition should again be considered.

Recognizing the seriousness of the problem and

bringing it down to the concrete, it is not beyond the possibilities for every child, whether in private practice or clinic, to be examined, diagnosed and kept under systematic observation when positive; suitable cases to be referred to nurseries and preventoriums established for their special care until they are of the age to be placed in open window kindergartens. Later to be transferred to the open window rooms and kept there until they have gained the greatest possible amount of resistance to overcome the infection previously acquired.

This may seem visionary and beyond accomplishment. But the more you think of it, and it will recur to your minds frequently, the more you will be convinced that some practical, systematic, businesslike handling of this problem along these lines is possible and the most direct way to prevent the great inroads of tuberculosis on public health. We are justified in expending our best efforts on the first five years of life, the period of profound peril.

THE ARMY MEDICAL CORPS.*

MAJOR E. J. DOERING, M. R. C., U. S. ARMY.

President Board of Medical Examiners.

CHICAGO.

Mr. President and Members: On behalf of Colonel Henry I. Raymond, who is prevented from being here tonight by reason of an engagement to deliver an address before a patriotic gathering, I wish to say a few words to you first with regard to the regular Army Medical Corps. There are about 600 vacancies in this Corps. There should not be any. It is inexplicable to me why there are not at least 6,000 young men applying for these positions. There is no finer body of medical men than you find in the Army Medical Corps. Appointed for life, every opportunity is afforded them to improve their medical knowledge, special training is given them at the Army Medical Schools, opportunities are afforded for development in any special line they may prefer, all instruments, books and periodicals required are furnished them. They are surrounded and are in daily contact with gentlemen, they have no worries about income, are

received everywhere in the best society, every club in the country admits them without initiation fees or dues, in short, they are the real aristocrats of the medical profession. When disabled or when reaching the age of 64 they are retired on three-fourths pay.

The requirements are as follows:

Age between 22 and 32.

Graduate of a recognized medical school and one year's internship.

Professional examinations are held now the first Monday of each month throughout the United States. An officer starts as first lieutenant with \$2,000 per year, after five years he is promoted to captain and receives \$2,400 with an increase of ten per cent. for every five years' service. In addition, he is furnished with quarters, fuel and light. I repeat, therefore, every young man who wants to make certain at the very outset of his medical career, that it shall be a successful one, in every sense of the word, should apply for a commission in the Medical Corps of the U. S. Army.

I should like to add that with the experience of 40 years in the practice of medicine (both in and out of the service), if I had to commence life all over again I would begin and end my career as a medical officer in the U. S. Army.

Now as regards the M. R. C. The profession has responded nobly so far and Chicago has done particularly well. As a State the record is not quite so good, Illinois standing only number 20 in the list. About 1,900 have joined out of over 10,000 physicians in the state, about one in five. Owing to the new men being drafted, we need 5,000 more physicians throughout the United States now, and more later, for an army of 3,000,000 men. Illinois should furnish about 1,000 more, at least 500 more from Chicago, and I am quite sure that they will come forward. We need not only more medical men for the army proper, but also more men for the base hospitals, convalescent, reconstruction and general hospitals, not forgetting the needs of the U. S. Navy.

Here I will quote from Col. Robert E. Noble's splendid address delivered before the Southern Medical Association: "War is the most fearful thing that can come to a people. But its horrors can be lessened by an adequate medical service. The knowledge that a medical service

*Address delivered to the members of the Chicago Medical Society, May 1, 1918.

chosen from the profession, a voluntary draft, the giving by the profession of its best without reservation or stint, will be a comfort to those at home and a tower of strength to the soldier who knows that, sick or wounded, the best brains and skill of the profession will be devoted to his care. This is the kind of service we want and the service we must have."

To return to the M. R. C. The compensation, mileage, allowances for quarters, fuel and light all are the same in the Reserve Corps as in the Regular Army. Recently Congress has passed a bill by which officers abroad who have dependents at home, receive an increase in pay of about \$50 per month for first lieutenants, \$60 for captains, and so on. Everybody is given an opportunity for development along the lines for which he is best equipped. It is the duty of every young man up to the age of 35, who does not want to join the Regular Army, to join the Reserve Corps. Everything is in his favor, the experience he gains is alone worth all and any sacrifice he makes. But also, every physician up to the age of 55, who is in good health, and who can possibly be spared from private practice or the hospitals, should apply for a commission, in order to feel that he has fulfilled a pressing duty and one which cannot fail to appeal to all patriots and those who love their fellow men.

Those who are unable, for any reason, to answer this call, should at least join the Volunteer Medical Service Corps, which will be an organization of doctors at home, "to do something when there is something to do." Appeal for membership may be sent to the Council of National Defense, Washington, D. C., but we much prefer that you join the Reserve Corps if at all able to do so. The method of procedure is very simple. All you have to do is to call or telephone for blanks, fill these out and apply at the session of the Examining Board at 81 East Madison street, Chicago, any Monday, Wednesday or Friday at 10 a. m.

The examinations are both physical and professional and of a practical character for the more mature men. Successful candidates are, of course, graded according to their general proficiency and ability in special lines.

In closing permit me to quote from a letter received a few days ago from Col. Billings, our own Frank Billings, who surely is an example

to us all, in his untiring and marvelous devotion to duty, and his magnificent patriotism.

"So far, I have been condemned to hard labor down here. Two months in the office of the Provost Marshal General, were crowded with real work, including evenings and Sundays. Now for a month in the office of the Surgeon General. I am the Director of the Division of Physical Reconstruction and Invalided and Crippled soldiers. The organization and planning for present and future care, re-education, etc., etc., of these poor maimed men, has been and will continue to be a big job. We are at work in seven hospitals now. If the war goes on, we shall have from 25,000 to 50,000 beds under our division within the year. Then we have to plan for co-ordination with our men on the other side. General Gorgas told me last week that I should count on being in the service on this job during the period of the war, and he added, and afterwards too. That doesn't look, as if, at 64 years, I was to get the leisure I had planned. But I am ready to obey, if staying here, or going anywhere else will aid in knocking the Kaiser and his imps into Hell."

81 E. Madison street.

WHAT THE OCULIST CAN LEARN FROM OTHER PHYSICIANS.*

CLARENCE LOEB, M. D.

CHICAGO

It is only about a century since medicine began to exhibit a tendency to break up into specialties. One of the earliest branches to spring from the parent stem was that of ophthalmology, and as it grew, it developed into almost a Science of its own. Oculists did not concern themselves with diseases outside of their special domain, unless they happened to lay claim to special knowledge in other domains of medicine, for example otology. On the other hand, to the vast majority of the profession, the eye was a terra incognita, a subject of which the average physician knew very little and cared less. I am speaking, of course, only of the larger cities, and not of more thinly settled districts where the family doctor was forced by the fact of a more

*Read before the South Side Branch, Chicago Medical Society, March 28, 1918.

or less complete isolation to treat any disease with which he came in contact. But in the large centers of population, as soon as ophthalmology became a distinct specialty, it was a case of "hands off" for every one else. The man who did not hesitate to treat anything from mumps to tabes drew back before any disease of the eye. While the surgeon who would unhesitatingly explore the abdominal cavity confessed his inability or unwillingness to operate on the eye. No doubt, the importance of the organ of sight in the body economy, and the disastrous results which might follow unintelligent or unskillful treatment was the cause of this stand—a stand which still exists, and to a large extent properly so. On the other hand, the oculist so wrapped himself up in his specialty, especially after it began to be so broad and to require so much of his time to keep up with its progress, that he on his side began to regard the rest of the medicine as something with which he needed to concern himself, only so far as he could make use of its progress in his specialty, for example asepsis and the newer drugs. The unfortunate result of this was that both the general practitioner and the oculist came to look on ophthalmology as a thing apart, a near relation perhaps, but not an integral part of medicine as a whole. The oculist promptly forgot his knowledge of general medicine and the internists and other specialists followed suit so far as ophthalmology was concerned, and each was happy. In the schools ophthalmology had its place in the curriculum, but for the mass of students, who were planning to be internists or surgeons or both, it might as well have been omitted. Their attendance was more or less perfunctory, and their acquisition of knowledge of this subject was only sufficient to enable them to obtain a passing grade. They could not see that it would help them any in their chosen work, as they had no intention of treating eyes anyway, so what was the use?

This diverging of paths might have continued indefinitely, but for the fact that it began to be noted that certain conditions of the body were frequently accompanied by definite ocular lesions. To name a few, nephritis might be accompanied by loss of vision due to an albuminuric retinitis. It was possible to diagnose between typhoid fever and general miliary tuberculosis, when the latter involved the choroid of

the eye. Especially lesions of the central nervous system had their ocular symptoms. For example, intracranial tumors frequently were diagnosed on the strength of a choked disc or interference with the visual fields. I might multiply these cases sufficiently to fill an entire paper. As a matter of fact, oculist after oculist has written papers to call the attention of the general profession to the value of our specialty in helping to make a diagnosis. Today, no obscure case is considered adequately worked up until an examination of the function of the eye and the condition of its interior has been made, and in many cases where the diagnosis is comparatively easy, the careful practitioner fortifies it with a fundus examination and a test of the refraction.

The opposite of this, namely, the dependence of the oculist upon the rest of the profession for aid in making diagnosis and for information as to the correct method of treating ocular lesions is a development of more recent date. It is true that we have long known, or thought we knew that many diseases of the eye were due to syphilis, either directly or as part of a general syphilis. To such an extent was this belief prevalent that the great majority of intraocular lesions, especially those of the iris, choroid and ciliary body were regarded as syphilitic lesions. When treatment along this line failed, we could call them rheumatic or possibly gouty. However, since the Wassermann test has come into general use as an aid in diagnosing syphilis, and since the various tests for tuberculosis and the complement fixation tests are being more generally employed, and finally since the question of focal infections has been brought more and more into prominence, we are beginning to have more than a suspicion that a large number of lesions formerly classed under the head of syphilis are not syphilitic at all, but the result or the complication of other conditions. Especially are we finding more and more that apparently unrelated, almost negligible conditions, such as dental abscesses, chronic tonsillitis, chronic gonorrhoeal urethritis, etc., conditions classed under the generic term of focal infections, are responsible for a large number of ocular lesions. It seems a far cry from an iritis to a lesion such as a blind dental abscess, which may be giving the patient no trouble, and which might remain absolutely unknown except for the evidence

furnished by the x-ray. But when all other treatment has given only temporary relief, and when extraction of the offending tooth gives prompt and permanent relief, and when this has occurred not once but many times within the practice of various men, it certainly looks like more than a mere coincidence. And when a similar state of affairs has been reported time and again with the tonsil, the intestine, the urethra, etc., as the site of a lesion whose removal is followed almost immediately by cure of the ocular disease which up to that time has proved intractable, what can we conclude but that there existed the relationship of cause and effect?

If we were back in the olden days when a text-book could contain within a couple of hundred pages all that was known about medicine, it might be possible for the oculist to search out for himself the remote cause of the ocular lesion. But the domain of medicine today is so vast that no one man can hope to know thoroughly more than a comparatively small part of it. Therefore, the oculist when confronted by a condition whose etiology is not clearly evident, such as a trauma, must call upon his professional brothers to lend him to their store of knowledge. From the laboratory worker, he would ask information as to the character of the ocular secretions and the excretions of the body, also the condition of the blood, especially the Wassermann reactions and the complement fixation tests; from the dentist, the condition of the teeth; from the rhinologist, the condition of the nose, throat and ear, especially the tonsils and the nasal accessory sinuses; from the internist the condition of the organs within the thoracic and abdominal cavity, especially the possibility of a hidden or manifest tuberculosis, appendiceal or gall-bladder condition; from the genito-urinary specialist the condition of the urethra and bladder; from the dermatologist the condition of the skin—in fact, there is hardly any part of the body which is not to be closely scrutinized for a possible lesion bearing an etiologic relationship to the ocular lesion. Nor must we forget the neurologist, who so frequently invokes our aid. From him we must inquire as to the condition of the central nervous system, for perhaps our local lesion is not only the index, but also the supplement of a neurologic one.

It is not my intention to go into the details of the pathologic conditions of the eye whose etiology is to be found elsewhere in the body, but it might be of interest to briefly review some of the remote lesions which are complicated by ocular ones. I shall not go into the question of luetic eye conditions, as it is fairly well understood by all how protean are the manifestations of ocular syphilis.

It would seem that next to syphilis, the honor, or dishonor, of causing the most ocular lesion is shared about equally between the teeth, the nose, including the accessory sinuses and tonsils, and tuberculosis. In 10,000 cases of eye diseases, Lang found pyorrhea present in 139, tuberculosis in 27 cases and nasal condition in 6; while Irons and Brown in 100 cases found dental lesions in 7, tuberculosis in 8 and nasal conditions in 8. But a large number of other authors have reported individual cases which bring the percentages to about the same amount. Dental lesions may be either pyorrhea, blind abscess of roots of teeth, or simply impacted molars. Ocular lesions of dental origin are confined chiefly to the uveal tract, especially the iris and choroid, but tuberculosis seems to attack all parts with the exception of the lens, if we admit the probability of tuberculosis being one of the causes of phlyctenulosis of the conjunctiva. It may attack the tissues either in the form of tubercular inflammation, or as a single or multiple tubercles. The original lesion may be in the lungs, the bones, the nasal structures, or the lymph nodes, or its location may be unknown, the diagnosis being based on a focal reaction to the tuberculin test. The nose, sinuses and tonsils likewise enjoy a wide dissemination of baneful influence. The most frequent lesions, however, are of the optic nerve, the uvea, the orbit and the lacrimal sac.

Among the less frequent, but still potent causes of ocular lesions, we find gonorrhoea as a very important etiologic factor, chiefly in the production of iritis and conjunctivitis. Untoward conditions in the gastro-intestinal tract are frequently the cause of ocular disease, especially of the uvea and are probably one of the causes of phlyctenulosis. Gout may cause iritis or scleritis. Kidney disease may be accompanied by retinal hemorrhage, neuroretinitis, retinal detachment, or the so-called albuminuric retinitis.

The latter possibility is especially interesting at the present time, as it has been found to accompany frequently the so-called renal retinitis of soldiers, or "trench nephritis." Diabetes chiefly is represented in the formation of cataract, as is also nephritis, but it may affect other portions of the eye. Pleurisy, pneumonia, appendicitis, uterine conditions, cystitis and cholecystitis also are the cause of various eye lesions. Among the general diseases, influenza, scarlet fever, measles, smallpox and typhoid fever are the ones chiefly accompanied by disease of the various portions of the eye. One of the most interesting conditions found is that of the presence of choked disc accompanying intracranial tumors and abscesses. But this hardly is apropos to this paper, as owing to the fact that the patient's vision frequently does not suffer for some time after the condition is well developed, they are usually referred to the oculist for examination by the neurologist or otologist, and not seen primarily by the oculist. Finally, I would mention the glands of internal secretion, but here we are treading on thin ice. It is definitely known, of course, that exophthalmus accompanies a certain form of goiter, but conditions such as cataract, keratoconus and choroiditis have been reported as due to disturbances in one or more of the endocrinal glands, and at least one case of malignant uveitis was checked by the administration of thyroid gland. It seems reasonable to suppose that these glands are capable of influencing the eye, but just how and when we do not know as we are still waiting for the internist and the laboratory workers to give us more information as to their physiology and pathology.

Quoting from the Digest of Literature, American Journal of Ophthalmology, Mch., 1918: "Literature abounds in clinical histories demonstrating the importance of focal impotence in the etiology of iritis, iridocyclitis and choroiditis, from: the tonsils by Babbitt, Dulaney, Dunn, McCool, Sobotky, pyorrhea, and alveolar abscesses by Black, Foster, Gradle, Hardy, Lang, Levy, McCool, Oulton, Paton, Reeder, Rowe, Swift, Thompson, Turner, suppuration of middle ear by Dulaney, nasal sinuses by Dulaney, and Irons and Brown, ulceration of the cervix by Taylor, alimentary tract in 23 patients of Lang, constipation by Taylor and Thompson, dysentery by Morax, appendicitis by Reeder, affections of the bladder due to infection with bacterium coli, which may have come from the alimentary tract in view of the presence of constipation in the cases of Davies, chronic urethral

infection with partial stricture by Babbitt, genito-urinary system by Lang, septic focus on the skin or on a mucous membrane or cavity in 10 patients of Lang, ulcerated matrix of a very badly ingrowing toenail by Taylor, influenza by Lang and Smith, showing that if the focus of infection is found and eliminated, a brilliant result can be obtained. In 200 cases of iritis in Lang's private practice the various causes occurred in the following percentages: syphilis, 6; gonorrhoea, 12; tubercle, 11; general affections, 8.5; other causes, 25.5; pyorrhea, 37.

In no less than 74 of the 200 patients of Lang the sole cause found was pyorrhea. When these cases were seen early and the offending stumps of teeth were removed the clearing up of the iritis was strikingly rapid. Of the remaining cases 22 had pyorrhea in association with other diseased condition. In the case in which pyorrhea alone was found there were twice as many women as men. Of the total number 48 per cent had their mouths affected. It would be of great value if members of the dental profession could recommend a preventive of this appalling state of affairs, which seemed to lay the foundation for numberless diseases involving all parts of the anatomy, including the eye.

Swift emphasizes the importance of focal infection in the alveolar process. There are in general three types of teeth in which Swift looks for the source of trouble: Crowned teeth. As a general rule a dentist has cut down and destroyed or exposed portion of the tooth in cases where a crown is used. It is in that type of decay wherein the tooth is nearly gone and a root is left that crowns are advised. In order to hold the crown two things are necessary: First, to destroy the nerve, devitalization; and, second, to form a band around the root to fix the crown. Both of these lead to abscesses. The result of faulty filling of the nerve canal is an apical abscess at the root; of faulty bands on the outside, pyorrhea.

The second type is the peg tooth. Of all poor dentistry pegging of teeth takes first place. If this is doubted, take a series of x-ray films and see how frequently the peg misses entirely the canal, perforates the wall of the root. The dentist purposely drills at the side of the canal for greater support but perforates the outer wall. This is especially true in front teeth owing to the fact that the root often bends backward. The frequency of apical and marginal or lateral abscesses has convinced Swift of the danger of its presence in all cases of peg teeth.

The third type appears in old broken roots. These can easily be diagnosed; usually they are loose. The old roots where the tooth has broken off years before, small portions of roots left by the dentist, malformed roots, misplaced roots and finally decayed roots are the source of alveolar abscesses. They are hard to find, often found only accidentally or after filming for another tooth abscess.

A mere cursory examination of the nasal fossae will, as Wynn emphasizes, often fail to reveal sinus disease that is causing the most severe focal symp-

toms. It must be most thorough and painstaking to be of any value.

While the complement fixation test for gonorrhoea was formerly very unsatisfactory, giving positive results in only 5 per cent of the cases, Fredrick says, the procedure has now been improved by the use of a great number of strains, as many as 150 in some places, so that today we can count on 85 per cent efficiency."

This résumé is by no means a complete one, but it will give a fair idea of the problem which confronts the oculist in many cases, and which compel him to call upon his fellow practitioner in other lines for aid, and the character of the information he desires. For the eye is not an organ simply placed in the orbit, but otherwise independent of the rest of the body. It is a vital structure in the closest relationship with all other organs near or remote, sharing their good health, but also partaking of their diseases, the mirror of other organs but so faithfully and minutely mirroring them that it becomes at times a difficult task to determine the source of the reflected disease.

DISASTROUS POSSIBILITIES IN THYROIDECTOMY.*

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The most disastrous possibility in thyroidectomy is death of the patient as a direct result of the operation.

Kocher¹ placed the mortality of 70 goiter operations done prior to 1850 at 40 per cent, of 400 between 1850 and 1883 at 15 per cent; since 1883 the death rate has fallen to 3 per cent. Kocher's present mortality in simple goiters is 0.4 per cent.

The great improvement of recent statistics over those prior to 1850 has been due in a large measure to aseptic surgery and to perfection of technique in general. Another large factor making for more favorable statistics in recent times is the better condition of the patients when they submit to operation. In the pioneer days of goiter surgery, thyroidectomy was done only as a last resort and the patients were usually in an advanced stage of thyrotoxicosis suffering from degeneration of the heart, brain, liver, kidneys and other vital organs. Any formidable opera-

tion on such unfavorable subjects could show only a high mortality.

The tendency in recent times has been toward early operation for both simple and toxic goiter. The risk is so slight in simple goiter that lobectomy for cosmetic results is justifiable. In hyperthyroidism it is now advised to operate as soon as a reasonable course of medical treatment of at most a few months has failed to cure. It is true that many patients still come to operation in advanced stages of thyroid poisoning and in these desperate cases a great reduction in operative mortality has been achieved.

It can be said to the credit of our surgeons that there is no disposition to shirk the responsibility of those advanced and frequently all but hopeless cases. Crile² says that it is his policy to accept all cases for surgical treatment in which the process of dissolution is not obviously under way, and Crile's statistics compare favorably with those of other expert surgeons. The improvement in statistics has not, then, been due to a selection of the more promising cases or a refusal to operate on the bad risks, but the reduction of mortality in the unfavorable cases is due to a careful selection of surgical measures suitable to the endurance of the individual patient. This opinion has been borne out by the experience of the Mayo brothers³, who report a mortality of 25 per cent in the first 16 cases they operated on. Their present mortality is 1 to 3 per cent. The improved statistics they attribute not so much to increased skill and perfection of technique as to better judgment in selecting the surgical measures suitable to the condition of the individual patient.

Crile² tells us that in extreme cases in which the margin of safety is reduced to zero, the damaging factors of the operation must also be reduced to zero; that the whole scheme of treatment and technique must be more carefully planned than for any other type of operation. For an enervated organism a small injection of boiling water into one lobe of the thyroid may be the most that can be safely endured. This may be followed later by larger injections into the same and opposite lobes. When the patient's condition justifies it, one or more of the thyroid arteries are ligated. These small operations can be done under local analgesia or brief nitrous oxide anesthesia with a minimum disturbance

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to the patient. If these measures are well borne the patient will in time be brought to a fit condition for thyroidectomy. Under graduated treatment of this kind I have brought the most unpromising of subjects to a fair condition of health.

A most careful study of a patient's condition from every angle is necessary before one can arrive at an accurate estimate of his endurance and a determination of fitness for the ordeal of thyroidectomy. The condition of the heart must be most carefully studied. In the Mayo⁴ clinic it was found at autopsy that every patient dying from hyperthyroidism showed either macroscopic or microscopic proof of myocardial degeneration. Chas. Mayo asserts that patients with a cardiac dilatation exceeding one inch are poor subjects for operation and he makes it a rule not to operate while the heart is in that condition.

Experience has shown that patients suffering an acute exacerbation of hyperthyroidism with pronounced symptoms stand operation poorly. Gastric crises and acute delirium are serious manifestations; they contraindicate lobectomy.

It is well known that the hyperthyroid symptoms are often greatly aggravated by operation. This has been attributed to overwhelming of the organism with toxic products squeezed from the thyroid by manipulations incident to its removal. Accordingly gentle dissection has been advised and liberal drainage of the wound practiced for the first 24 to 48 hours. Crile², however, asserts that the exacerbation follows readily operations in any part of the body, and has seen reaction to a marked degree after a hypodermic injection. He attributes the phenomenon to shock of the hypersensitive nerve centers. Whatever the correct explanation may be, it is obvious that a gentle, rapid and dextrous technique is conducive to low mortality.

The loss of blood is poorly borne by the thyrotoxic patients, and it should be reduced to a minimum.

Preliminary ligation of the thyroid arteries is a routine procedure with some surgeons in enucleation and resection of the thyroid. As these patients are prone to hemorrhage⁵ special care must be given to hemostasis. Judd⁶ advises ligation of even the smallest vessel.

Infection, like hemorrhage, adds to the damage of the operation and may determine a fatal

outcome. Every detail of aseptic surgery should be observed by the operator.

Post-operative pneumonia is a large factor in the mortality from goiter operations. Reverdin⁷ found that 43 of 93 deaths in goiter operation were due to pneumonia. K. Arnd⁸ states that of 26 fatalities in 1,300 thyroid operations all but one was due to pneumonia. Arnd is inclined to ascribe the pneumonia to lack of hygiene in the mouth and longs for an effectual antiseptic which will improve statistics. He believes that prolonged operations also favor pneumonia, as the position of the head during thyroidectomy is liable to entail nausea and vomiting. Ochsner⁹ claims to have eliminated post-operative pneumonia in his cases. He gives a preliminary hypodermic of morphin and atropin. The patient is given ether anesthesia and operated on in the half sitting position. The upright position favors anemia of the brain and reduces greatly the amount of ether required for anesthesia. Ochsner states that when the patient is placed in the horizontal position at the end of the operation, he awakens almost immediately.

Tracheal collapse with suffocation of the patient is to be feared in long standing goiter with pressure symptoms. When it occurs the emergency must be promptly met to avoid a fatal issue. The fascia over the collapsed rings should be seized with forceps and pulled out. A tracheal tube may be necessary. Birchcr¹⁰ uses a series of sutures to hold the lumen open. He passes a thread through the side wall of the trachea and then through the sterno-cleido-mastoid muscle. As many as 18 such sutures were required in one case he cites.

The spectre of a tetany following his lobectomy usually haunts the surgeon. This fear has been fostered by experimental surgery which has shown that the destruction of all four parathyroids is usually followed by the syndrome of tetany and death of the animal. We are not at all reassured by the work of Pool and Falk¹¹, who analyzed 25 cadavers and found that one or more parathyroids would apparently of necessity have been removed in an intra-capsular lobectomy in 21 of the 50 lobes. Two of the parathyroids would almost surely have been removed in an unilateral intra-capsular lobectomy in 8 per cent of the individuals and possibly in 6 per cent additional cases. Pool and Falk conclude that com-

plete bilateral extirpation leaving only the isthmus should never be considered. The posterior part of one lobe must always be left.

From a clinical standpoint post-operative tetany does not appear to be a serious menace. Judd⁶, reporting on over 5,000 goiter operations done at Rochester in the Mayo clinic, states that symptoms of tetany were observed in only 7 or 8 instances. All these cases were mild and transient. The worst case followed ligation of both inferior thyroids at one sitting. Tetany was least expected as the posterior portions of both lobes had been saved. Judd attributes the tetany in this case to injury of the parathyroids by interference with their circulation or nerve supply. Notwithstanding the infrequency of tetany following goiter operations, Chas. Mayo⁵ warns us to scrupulously guard against removal or injury of the parathyroids, to preserve all small gland-like masses seen about the capsule in thyroid operations, and, if any such mass is accidentally removed to carefully replace it under a part of the remaining capsule.

Myxedema from sacrificing too much thyroid tissue is also an eventuality not to be greatly feared. Experimental surgery has demonstrated that a very small portion of thyroid tissue preserved with nerve and blood supply intact is sufficient to prevent hypothyroid symptoms. Judd⁶ states that in the Mayo series of cases permanent post-operative myxedema has not been observed, although in many instances a very large part of the thyroid had been removed. The late J. B. Murphy¹³ cites a case, however, in which a complete fibrosis of the entire gland followed ligation of both superior poles. Seven weeks after the operation all the symptoms of a pronounced myxedema presented.

F. de Quervain¹⁴, who practices routine ligation of the thyroid arteries as a preliminary to thyroidectomy, refrains from ligating all four arteries. Three or 3.5 is the maximum and 2 is the average number he ties. He carefully guards against injury of any kind to the portion of the gland to be left, and no evidence of tetany or hypofunction had been observed.

Kummer¹⁵ reports the case of a boy 13 years of age in which both inferior thyroids and the anterior branches of both superior thyroids were ligated. At the end of seven months there were pronounced symptoms of hypothyreosis but no

deficiency in the parathyroid function. Under thyroid administration the boy apparently made a complete recovery, and treatment was abandoned at the end of 13 months.

Injury to structures in close relation with the thyroid is a possibility that must be reckoned with in goiter operations. Wounds of the esophagus and trachea are of importance on account of the possible infection. Wounds of the trachea are said to be the more serious. The thoracic duct is subject to injury in left side lobectomy. An open wound of this duct drains the chyle into the dressings, and the patient soon dies from exhaustion and starvation. The opening in the duct must be sought for and closed by suture if possible, which appears to be a difficult feat. Failing in this, the leakage must be controlled by packing or by ligation of the wounded duct, trusting that there may be a collateral branch which will take care of the circulation. I have seen the thoracic duct wounded in two instances. The ducts were disposed of by ligation and neither patient showed any unfavorable symptoms.

The pneumogastric nerve appears not to be immune to injury during thyroidectomy.

Wells¹⁶ relates this experience. He was operating with infiltration anesthesia, when he was suddenly confronted with a profuse hemorrhage. Hemostats were applied and the hemorrhage promptly controlled, but the patient immediately lost consciousness, became pulseless and to all appearances was dead. On removal of one forceps the patient revived, and went on to recovery. Wells assumes that he had clamped the vagus.

Injury to the recurrent laryngeal nerve in lobectomy is not infrequent. Chas. Mayo³ reports that 10 per cent of his patients have some hoarseness following operation. Five per cent have permanent difficulty with one cord. The nerve may be injured by cutting, clamping or stretching. Extensive exposure of the nerve practiced by some operators is liable to leave paresis or paralysis of the corresponding cord. It has been observed that one cord may be already paralyzed before the patient comes to the operating table. Large right sided goiter frequently produces paresis of the left cord. Mayo recommends a laryngoscopic examination of the cords before goiter operations. One cannot

judge of the condition of the cords by the sound of the voice. When paralysis comes on gradually, approximation of the cords is compensated by the healthy cord moving across the median line of the larynx to meet with the paralyzed cord. When one cord is already paralyzed, an injury to the nerve of the healthy one would be very unfortunate.

E. Bircher¹⁰, in a study of 8,129 operations, found that the recurrent nerve was injured in 1.7 per cent. His own experience bears out that of other operators, to wit, the recurrent nerve is not usually injured in ligation of the inferior thyroid artery, confirming the old adage that it is the unexpected that happens. Bircher reminds us that disasters to Alpine climbers do not usually happen at the well known dangerous points of the trail. Injuries to the recurrent nerve as well as to other structures in the field of operation are often done in a frantic effort to control an unexpected hemorrhage.

Epitome.

The disastrous possibilities of thyroidectomy consist in:

1. Death of the patient as result of the operation.
2. Hypofunction of thyroid and parathyroids.
3. Untoward results from accidental injury to structures in relation with the thyroid gland, namely, recurrent laryngeal and vagus nerves, thoracic duct, trachea and esophagus.

The mortality of thyroidectomy has been reduced from 40 to less than 3 per cent. This achievement has been due to aseptic surgery and improvement in technique in general, to early operation before vital organs have become degenerated and to limiting the surgical insult to the patient's endurance.

Hypothyroidism is avoided by preserving a portion of healthy gland with nerve and blood supply intact.

Hypofunction of the parathyroids is avoided by preservation of those bodies so far as possible. The posterior portion of one lobe of the thyroid must be saved.

Accidental injury to neighboring structures is avoided by clean, skillful and gentle dissection in an operating field as free as possible from blood and instruments.

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BIBLIOGRAPHY

1. Correspondenz-Blatt für Schweitzer Aerzte, XLVII, No. 49.
2. Ohio State Med. Jour., XIII, 7.
3. Jour. A. M. A., LXI, 10.
4. Mayo Clinic, 1916.
5. Jour. A. M. A., VI, 1912.
6. St. Paul Med. Jour., XIX, 70-75.
7. Pract. Med. Series-Gen. Surg., II, 1908.
8. Corresponding-Blatt für Schweitzer Aerzte, XLVII, 1694.
9. Pract. Med. Series-Gen. Surg., II, 1917.
10. Corresponding-Blatt für Schweitzer Aerzte, XLVII, 1682.
11. Ann. of Surg., Jan., 1916.
12. Annals of Surg., LV, 192.
13. Pract. Med. Series-Gen. Surg., II, 282, 1911.
14. Surg. Gyn. & Obst., Oct., 1917.
15. Correspondenz Blatt für Schweitzer, Aerzet, XLII, 1697.
16. Med. Record, Sept. 14, 1907.

APPENDICITIS IN CHILDREN WITH REPORT OF TWO CASES.

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Appendicitis in children presents certain difficulties in diagnosis because of the frequency of atypical symptoms.

In infants the disease is very uncommon and when present seldom recognized. The difficulty in diagnosis is due in part to the inability of obtaining any history from the patient. Holt claims never to have seen a case in an infant under two years of age in over two thousand autopsies. Abt in a recent excellent resume of this subject, shows the infrequency of appendicitis in the infant. Jalaguier, out of 182 cases, found only four in children between one and five years of age. W. A. Wood places the occurrence of appendicitis in children as compared with that in adults as 1 to 36. Deaver estimates, that 15 per cent of all cases of appendicitis, occur in children up to the 15th year.

From the foregoing observations one notes that this condition occurs with increasing frequency in children between the 5th and 15th year.

Because of the frequency of gastroenteric disturbances in children, and the resemblance of many cases of appendicitis to these conditions, there can be no doubt that many cases are not recognized. Ochsner says, "Appendicular attacks which very frequently attack children otherwise in perfect health, are almost always looked upon by parents, friends and frequently by the physician as a case of violent acute gastritis or enteritis resulting from indiscretion in eating. . . . Therefore, the most important point is in dispelling the idea that a severe pain in the region of the stomach in children coming

on after taking indigestible food is due to gastritis, because so often a careful examination will demonstrate this condition to be a gangrenous or perforative appendicitis."

Porter decries the use of purgatives in children, by parents who believe every case of abdominal pain to be the old fashioned stomachache, and therefore by this pernicious habit cause many a case of perforative appendicitis. It has been the observation of many men of wide experience that gangrene and perforation occur rapidly in children.

J. B. Murphy stated that the mortality rate in children was 3 to 4 times as high as in adults.

Doubtless, the failure to diagnose cases and the frequency with which one is confronted by pathological findings out of all proportion to the symptoms; and as already stated, the rapidity with which perforation and gangrene occur in children, contribute to the high mortality rate. The necessity, therefore, for early diagnosis and operative interference is obvious.

In reviewing the symptoms of appendicitis as observed in children, the classic group of findings as seen in adults does not prevail.

In all cases the onset is ushered in with severe pain. The pain may be present in any portion of the abdomen, but is most frequent in the region of the stomach. Holt says, "In a large proportion of cases the pain is not in the region of the appendix."

Perhaps next in frequency to pain comes vomiting. However, it is not as characteristic as in adults.

Tenderness is a fairly constant finding, but like the pain, may exist elsewhere than at McBurney's point. However, it is most often found on the right side higher than in the adult, due to the anatomic position of the appendix in children. The appendix lies higher and more toward the median line of the abdomen in children:—Young, Dwight, Ballantyne.

Rigidity is not so commonly found. The usual fear of a child when undergoing a medical examination, makes it exceedingly difficult to decide whether true rigidity is present. However, careful examination may demonstrate a well defined rigidity.

The presence of increased pulse and elevation of temperature are an aid in diagnosis when

found, but are often lacking and unreliable in judging the severity of the underlying condition.

A leucocytosis is found very early in the attack in the majority of cases but may be absent later, and does not indicate the degree of inflammation. A leucocyte count under 10,000 in children is of little value.

An observation of Deaver in these cases may be of assistance. He states, "Restlessness is characteristic in childhood, but in a child with symptoms of appendicitis, restlessness means pus."

From the foregoing compilation of irregular symptoms and frequent contradictory findings, the direct diagnosis of appendicitis with which we are here concerned is not simple. In arriving at a correct diagnosis the following points will be of assistance.

Every case of acute abdominal pain in children should be considered a possible case of appendicitis unless conclusive findings of some other condition establishes the diagnosis. After the 5th year appendicitis is not so very rare.

An acute onset with pain, vomiting and localized tenderness on the right side is extremely suggestive, and when in addition rigidity, fever or leucocytosis is present, the diagnosis is conclusive. One should not expect to find all these in any one case as quite often only two or three symptoms may be present.

The two cases reported below illustrate some of the phases of the condition discussed in this paper.

Case 1. Vera J., girl, aged 9 years, on Sept. 14, 1917, while at school, complained of severe pain generalized over the abdomen. Did not vomit. The following day the pain was localized on the right side a little below the level of the umbilicus. She then vomited seven or eight times. The temperature and pulse were normal until the afternoon of the second day, when it reached 102, with a pulse rate of 100. The leucocyte count was 10,000. There was no rigidity, but marked tenderness over the entire right lower quadrant of the abdomen. The patient did not appear very sick and lay quietly and apparently very comfortable.

A diagnosis of acute appendicitis was made and patient taken to hospital for immediate operation.

The appendix was removed through a gridiron incision. It was found retrocecal, adherent to the cecum, and when removed showed a dark greenish spot at about its center. Wound was closed with a small gutta-percha drain inserted. Recovery was uneventful.

The laboratory report was as follows: Appendix seven cm. long, distended vessels in serosa. On

opening the entire mucosa was absent. Muscle walls necrotic and dark green in color. Diagnosis: Acute gangrenous appendicitis.

Case 2. Libby M., girl, aged 7 years, on Sept. 28, 1917, went to school in forenoon. After lunch went out to play and came in complaining of pain in right side. Had eaten some food left over from the day previous and mother attributed the pain to this. Patient had had a similar attack three weeks earlier. Temperature at this time was 99, pulse 78, and white count 9,000. Patient did not vomit.

On examination tenderness was found around the region of the umbilicus. There was a rather ill defined rigidity on both sides of the abdomen. I sent the child to the hospital for observation, because of the vague symptoms and findings.

From jolting received in transportation, she vomited once on admission to the hospital. In the course of a few hours all symptoms subsided and pulse and temperature were normal. Parents wanted to take child home. Six hours after admission the temperature rose to 103.4 and pulse 140, but the leucocyte count was only 10,500. Immediate operation was decided upon.

The abdomen was entered through a right para-rectal incision. On opening the abdomen a small amount of seropus escaped. Appendix was found lying close to the posterior surface of the cecum and very much distended. A rupture the size of a millet seed was seen near the tip of the appendix. Appendix was removed in the usual way and a drain inserted. On opening the appendix the mucosa appeared pale except near the tip where a small fecal mass rested, around which the mucosa was injected. The perforation had occurred at this point. Diagnosis—Acute perforative appendicitis. Recovery uneventful.

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REFERENCES:

- Abt, I. A.: Arch. of Pediatrics, Sept., 1917.
 Murphy, J. B.: Clinics for 1915.
 Wood, W. A.: Med. Jour. of Australia, July, 1917.
 Kelley: Surgical Diseases of Children.
 Ochsner, A. J.: Clinical Surgery.
 Porter, L.: Calif. State Jour. Med., Jan., 1918.
 Holt, L. E.: Diseases of Infancy and Childhood.
 Kelley's Surgical Diseases of Children.
 Deaver
 Young
 Dwight
 Ballantyne.

RECTAL SURGERY UNDER LOCAL ANESTHESIA.*

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The dread of a general anesthetic is almost universal and many individuals suffering, per-

haps acutely, with disturbances of the pelvic bowel are prone to use domestic remedies and nostrums until they are physical wrecks from loss of blood and pain, all the time refusing an operation because they do not wish to take a general anesthetic and be confined to bed. With our present knowledge of regional anesthetics it is not always necessary or wise to give a patient a general anesthetic. Practically all uncomplicated cases of hemorrhoids, anal tumors and fissures, cryptitis, peri-rectal abscess and many fistulas may be operated upon with a local anesthetic, and thus eliminate the danger of a general anesthetic to life from heart, lung or kidney complications as well as lessening the pain and the danger of secondary hemorrhage due to vomiting.

The anal canal is one of the most difficult regions to satisfactorily anesthetize. Nerve blocking operations are difficult because of the many filaments from a number of sources. This region is exceedingly sensitive, and an intimate knowledge of the local anatomy, its nerves, muscles and blood vessels is important. The nerve supply of these parts is from the pudic, the pelvic branches of the posterior femoral cutaneous, the sacral and coccygeal plexues. The region supplied by the pudic nerve is one of the most sensitive areas of the body and disturbances here cause local and reflex suffering out of all proportion to the pathology of the lesion. In the rectum the sensitive area is practically limited to the lower two inches and above this there is very little sensation, but in this terminal two inches disease is found more often than in all the rest of the alimentary canal.

Knowledge of the field of usefulness of regional anesthesia and also its limitations have materially widened in the last few years and much of this knowledge is due to a careful selection of our patients and also of the method and anesthetic employed. No one method or drug suits all cases.

To be practical the anesthetic must:

1. Be suited to the individual patient. This requires frequent modification from any described technic.
2. It must have a minimum effect on the blood pressure, respiration and color reflex of the patient.
3. The anesthesia must be maintained as long

*Read before Douglas Park Branch Chicago Medical Society, March 19, 1918.

as required by the surgeon and the recovery of the patient from the narcotic effect should be without nausea, vomiting or undue suffering.

The advantages of regional anesthesia are:

1. Elimination of the terror associated with a general anesthetic (psychic trauma).

2. Lessening the post-operative pain, distress and complications.

3. Encourages gentle handling and careful sharp dissection of the tissues, both of which tend to prompt and better repair of the wound.

4. Thorough blocking of the operative field prevents surgical shock.

Anesthetic Agents.—Various salts are used as anesthetics. Idiosyncrasy exists in some patients toward certain drugs and great care must be exercised in the choice of drug and the strength of solution used.

1. Cocaine used by Koller in 1884 in operations on the eye, soon became popular local anesthetic, but presented many toxic instances.

2. Beta eucain lactate is about one-fourth as toxic as cocaine and nearly as effective although the anesthesia is more slowly produced and wears off more quickly. In strength of one-eighth per cent, it is very satisfactory anesthetic in selected cases.

3. Novocaine in combination with adrenalin is perhaps the biggest step in the advancement of local anesthetics. Novocaine is one-tenth as poisonous as cocaine, is unirritating, and its solution can be boiled without deterioration. It is used in 0.5 (Mayo) to 0.25 (Crile) per cent. solution. Ten grains have been used by infiltration without causing poisonous effect which means that with a 1 to 400 solution of novocaine with adrenalin 200 cc. may be used. However, it must be remembered that novocaine is toxic, several deaths have been recorded. Adrenalin by its vasoconstrictor action confines the anesthetic drug in the tissues and retards its absorption, and assists in producing a bloodless operative field. It may be used as one drop of the standard adrenalin solution in 15 cc. of anesthetic solution. A synthetic substitute homorenon is fifty times less toxic than adrenalin and is used exclusively by some. Apothesine—a domestic remedy—closely resembles novocaine and has given me very satisfactory results.

4. Potassium sulphate increases the anesthetic effect of novocaine. Braun uses a 0.4 per

cent. solution of potassium sulphate in normal salt solution. The injection of dilute novocaine solutions even to the extent of edematizing the tissues does not interfere with the wound healing.

5. Quinine and urea hydrochloride introduced by Thibault in 1907 produces anesthesia which lasts several days and thus prevents post-operative pain in the incisions and the stitches and restrains the activity of the sphincters and other muscles. Its solutions are quite irritating to the tissues and should not be injected into infected areas. It is of most use for massive blocking by infiltrating solutions of one-sixth to 0.5 per cent. strength into tissues at a distance from the incision. It is very painful when injected into or near the skin and may cause sloughing.

Nervous or hysterical patients and children are not fit subjects for regional anesthesia. Possible idiosyncrasy of the patient must always be in mind and our preparations include having on hand the antidote for the anesthetic drugs employed. The surroundings of the operating room together with the nature and extent of the operation and the probable time it will require must all be carefully considered. The experience of the surgeon is very valuable in determining the proper class of patients.

There is no such thing as getting the confidence of the patient. All of them are apprehensive at the beginning although many become quiet later when convinced that there is no suffering. The patient must consent to our plan of treatment and co-operate with the surgeon. An obstreperous subject will flinch and complain at every needle puncture and finally become so irritable that there is danger of a false movement at a critical moment.

Preliminary narcotic medication is indicated in nearly every case to eliminate the psychic trauma and prevent the rise of blood pressure occasioned by the nervousness of anticipation of the operation. My patients are given a hypodermic injection of morphin gr. 0.25 and hyoscine gr. 0.01 one hour before the operation, and are also given a cup of soup or milk at this time as it is better not to operate on an empty stomach.

As operations under local anesthesia are longer than when performed under general anesthesia every little thing should be done to add a possible comfort to the patient. The table should be covered with a pad 4 to 5 inches thick. He

should have a pillow and if in the lithotomy position he should have a pad under the small of the back. He should not be tied or strapped in any way. The position of the patient depends on the needs of the particular case. The left lateral prone with the hips raised is preferred by some, while others use the exaggerated lithotomy. Either position may be made relatively comfortable by a little thought and solicitation before the operation.

Methods of Applying the Local Anesthetic:

1. Infiltration—the injection of the solution into the field of operation and well beyond the site of traumatism. This method is applicable in the superficial structures about the anus.

2. Conduction—(a) Topical. (b) Deposit of the solution in the spinal canal or on a nerve trunk supplying the given area.

This method is used for more extensive operations. A combination of both methods is often advisable in rectal work.

Infiltration.—It is not necessary to apply the anesthetizing agent directly to the tissues to be incised, but it may be applied entirely outside of the line of incision and thus secure good anesthesia which will be maintained until after the completion of the operation. The extent of the anesthesia depends upon distention pressure on the nerve ends caused by the amount of solution injected rather than the strength of the drug used. If a narrow strip of wheals is produced and the incision made through the center of it, the solution escapes as the tension on the infiltration is relieved and when the skin closure is attempted the needle enters unanesthetized skin in certain places causing great pain.

The anal skin and mucous membrane are very sensitive, but in the upper rectum there is little sensation. The success of a local anesthetic depends upon a careful and thorough infiltration of the whole field. With a fine needle the solution is introduced into the skin itself between its two layers and a wheal thus formed whose surface is white, and pitted looking like pigskin. The initial injection should be made at a distance from the muco-cutaneous junction and then carried toward the anus. The skin in the posterior raphe one-half inch back of the anus is touched with phenol on a swab and after waiting a few minutes the skin is picked up between the thumb and forefinger of the left hand and the needle intro-

duced at the cauterized spot. A few drops of novocain solution raises a wheal and after waiting a few moments the needle is advanced and another injection made, causing another wheal. In this manner the needle is carried forward just under the skin at a distance of one-half inch from the anal opening. When the needle is advanced its full length on one side it is retracted to the posterior commissure but not withdrawn from the skin and the infiltration carried up on the other side of the anus. When the full depth of the needle has been reached it is withdrawn and inserted at the most anterior wheal just made and the infiltration continued to the anterior commissure and around on the opposite side until the wheals meet those previously produced. In this way the whole anal opening is anesthetized while the needle is always kept one-half inch out from the edge of the mucous membrane. This procedure blocks the inferior sphincter nerves.

The surface being anesthetized the deeper structures and nerves next receive attention. Sometimes the deeper fascias had better be infiltrated as they are reached and thus the nerves may be injected more accurately. All tissues do not infiltrate equally well. If the patient shows evidence of pain stop and infiltrate again.

The sphincter muscle must be anesthetized in all except the very superficial work. After the anal opening is benumbed the operator introduces his left index finger into the rectum above the external sphincter, hooks the finger over that muscle and by slight traction draws it down and steadies it while the needle passed through the skin at the anesthetized bullæ is plunged into the sphincter muscle and 10 minims of 0.5 per cent. quinine and urea solution is deposited in the substance of the muscle. This deep injection is made in four places, one on either side of the commissures, front and back, one-half inch out at the entrance of the lesser sphincter nerves. The index finger within the rectum will assist in guiding the needle to the proper depth. A needle, long enough to reach the deeper layers of the sphincter is required, otherwise dilatation of that muscle will be incomplete.

After waiting a few minutes for anesthesia to develop, the finger within the rectum massages the sphincter, which if the muscle has been well injected, will soon relax, but if not sufficiently

anesthetized will contract upon (bite) the finger and we must wait longer or make one or two more deep injections. As the sphincter relaxes under the massage, a second finger, then a third and finally the thumb all grouped to form a cone is introduced and the massaging and stretching continued until the capacity of the sphincter is reached. This maneuver must be carefully performed that the mucous membrane be not torn or the anal margin not otherwise damaged. Just what is the full limit of the sphincter varies with the individual and the operator's experience is the criterion in each case. By this method there is never any danger of rupturing the muscle, as may occur under divulsion with the speculum. When the muscle has been thoroughly relaxed it will remain so while we are operating. This slow but thorough dilatation of the sphincter is an essential factor in lessening the post-operative pain by limiting sphincteric spasm. The dilatation must be slowly and patiently accomplished because prolonged relaxation cannot be obtained if the stretching is roughly or hurriedly performed.

Blocking the nerves some distance from their termination is accomplished by injecting directly into the nerve or infiltrating the tissues around the nerve. The pudic nerve may be blocked near the spine of the ischium. The needle is entered at an anesthetized point on the skin one and a half inches back of the rectum. The left index finger in the rectum locates the spine of the ischium and guides the needle. The injection is slowly made as the needle is advanced to within one-half inch of the inner side and a little in front of the base of the tuberosity of the ischium.

The coccygeal nerves are blocked similarly by depositing a syringeful of fluid immediately in front of the tip of the coccyx.

The inferior pudendal nerve may be blocked by a syringeful of fluid deposited on the outer side of the ischium. This is a very important step in fistula operations if the working field extends behind and away from the rectum.

Failure to secure complete anesthesia is often due to undue haste in beginning the operation. At least five minutes should be allowed for novocain to become effective and fifteen minutes for quinine. There is no anesthetic shock, therefore no need to hurry, and plenty of time may be taken to work artistically. The convalescence of

the patient is less stormy than when a general anesthetic is used and the wounds heal kindly. If adrenalin is used all bleeding vessels must be well secured because even insignificant appearing bleeders may cause annoying secondary hemorrhage when the constricting effect of the adrenalin wears off.

Rectal abscesses. The infiltration here is to be made into the skin and between its layers, being careful not to carry the needle into the abscess cavity. After waiting five minutes the abscess may be opened painlessly.

Anal fissure. In excising an anal fissure the area anesthetized need not extend beyond the quadrant in which the ulcer exists. In all cases the sphincter should be anesthetized and the infiltration carried below the base of the fissure.

Fistula. When the operator feels certain that the sinus is straight, without branches and with but one internal opening the work may be attempted under local anesthesia.

Plastic operations about the anus for the relief of anal stricture as sometimes occurs after hemorrhoid operation or x-ray burns. The pain of x-ray burns is agonizing. Every movement of the body and each defecation is painful and the sufferer soon becomes a morphin victim. These conditions are soon relieved, however, by excision of the scarred area and closure of the wound with suture. This may be accomplished under local anesthesia.

Hemorrhoidectomy is very satisfactorily performed under local anesthesia but the pile tumor and the mucous membrane above and around it should be infiltrated to block the sympathetic nerves which descend in the mucosa.

Malignant disease should not be treated by this plan for fear of dissemination.

30 North Michigan Avenue.

THE MANAGEMENT OF EPIPHORA OR "WATERY EYE."

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The lacrimal apparatus is composed of two parts: a secretory and an excretory. The secretory part consists of the lacrimal gland, its ducts and the accessory gland. The excretory

portion is made up of the punctum, canaliculus sac and the nasal duct.

In every case of "watery eye" we are dealing either with an excessive action of the secretory, or a defective action of the excretory portion of the lacrimal apparatus. The *secretory* part is rarely diseased. Dacryoadenitis is occasionally associated with mumps, syphilis, influenza, rheumatism, etc. Malignant and benign tumors also occur here. Reflexly, irritation of the cornea or conjunctiva from foreign bodies or disease may cause great increase of tear.

Disease or defect in the *excretory* portion of these organs is of common occurrence. Congenitally there may be partial or complete closure of the puncta, canaliculi or nasal duct; or there may be an absence of any or all of these organs. Of the acquired pathological conditions we have a partial or complete closure of the punctum, canaliculus or nasal duct; and inflammation of the sac; all of which have epiphora as the leading symptom.

The first step in the *management* of a case of epiphora is to positively decide whether the flow of tear is interfered with at the punctum, in the canaliculus or in the nasal duct. This point can best be decided by placing the end of the forefinger over the lowest part of the sac and making pressure backward, upward and inward. If mucus or pus can be expressed from the sac, it is positive evidence that the constriction or closure is in the nasal duct and that dacryocystitis is present. If no mucus or pus appears when this pressure is made, and the lid is in a normal position—the obstruction is in the punctum or canaliculus. This obstruction can usually be quite promptly overcome by careful and repeated dilatation of these parts, using the punctum dilator for the punctum and a lacrimal probe for the canaliculus. Great care should be exercised to avoid tearing the mucous membrane which in the healing process would again cause stricture. This tearing can be avoided by keeping the probe or dilator (after its point has passed the punctum) parallel to and in contact with the lid margin. After each dilatation the punctum, canaliculus and sac should be carefully irrigated with cold boric solution, using the lacrimal syringe. These cases of partial closure of the punctum and canaliculus are due primarily to such causes as chronic conjunctivitis, blepharitis,

ectropion, facial paralysis, burns, etc., which must receive appropriate treatment.

Slight causes such as hay fever or colds, often seem sufficient to bring about a *partial* closure of the nasal duct with stagnation of fluid in the sac, which in turn causes more swelling with *complete* closure. Bacteria and foreign bodies are being constantly carried by the tears from the conjunctiva into the lacrimal sac. When these germs are not carried on promptly from the sac into the nose they multiply rapidly and infection is soon produced. The pneumococcus and staphylococcus are most frequently found. Where growths and other intra-nasal diseases are causing the trouble appropriate treatment should be undertaken.

Because of the time required for the cure of chronic dacryocystitis, I believe that the family physician should treat many of the cases; especially if the patient be located near him. Very little skill is required to dilate the punctum and syringe the sac. A little careful instruction by the oculist will enable the general practitioner to go on with the treatment very satisfactorily.

In the presence of pus or muco-pus early probing should not be undertaken. Daily irrigation of the sac with bichloride of mercury 1 to 4,000 or 5,000, followed each time with warm boric solution is the best line of treatment. Of late I have been using a few drops of a 1 per cent. solution of ethyl hydro-cuprein hydrochloride twice a week after the bichloride irrigations allowing it to remain in the sac, and am convinced that it is of great value. Hot compresses applied over the sac, very much as one uses them in cellulitis are of benefit, especially in the old cases. The compresses should be changed every 10 or 15 minutes for a few times morning and evening. Massage of the sac with the ball of the forefinger for a few minutes, a. m. and p. m., has served as an aid in many of my cases. During the massage rather firm pressure should be made. One-fourth of a grain or more of protoiodide of mercury t. i. d. is often useful even where syphilis can be positively excluded.

After the sac is free from pus and remains so for several days or more, a few drops of adrenalin, one part to three parts of boric solution, should be placed in the sac with a lacrimal syringe. After about five minutes the sac should be again syringed with warm boric, when we will

often be rewarded by the fluid passing through into the nose. Should this not take place after repeating the adrenalin two or three times on successive days, probing of the nasal duct is indicated. Here the oculist is needed. False passages are easily made and much more harm than good may be done unless the operator has had a reasonable amount of experience. Five or ten minutes before trying to pass the probe a few drops of a 4 per cent solution of cocaine should be placed in the sac with a lacrimal syringe and the punctum dilated. The canaliculus is "slit up" when it is much narrowed; where the punctum is ragged, or the lid stands off from the globe. A No. 4 Bowman probe should be used, as smaller ones are much more liable to pierce the membrane and cause a false passage. The size should be gradually increased from time to time up to No. 8. Probing should be done about three times a week, and the boric irrigations continued. In some of the cases the probe meets a bony obstruction and cannot be passed, or the probe passes into the inferior meatus of the nose but causes considerable hemorrhage each time. In these cases and in those where the probe passes easily and yet the solution put into the sac will not go through, it is better to remove or destroy the sac.

The prognosis of epiphora in adult life should be very guarded, and the tendency to recurrence kept constantly in mind.

Epiphora during infancy is of fairly frequent occurrence. The cause here is either inherited syphilis, incomplete development of the parts or a plug of mucus somewhere in the lacrimal passage. In the cases of incomplete development or mucus, time is an important factor in bringing about normal function of the parts. Often too much in the way of treatment is undertaken. Very gentle massage and the use of boric solution in the conjunctival sac are usually sufficient. Occasionally it is necessary to use a general anesthetic, dilate the punctum and irrigate the sac. In doing this care should be exercised to avoid too much pressure with the fluid from the lacrimal syringe, otherwise the parts may be permanently injured. Where inherited syphilis is the cause, internal treatment is of first importance. While waiting for the effect of the systemic remedies the material in the sac, which is often pus, should be expressed several times

daily and the conjunctival sac flushed with boric solution. It may be necessary to dilate the punctum and irrigate the lacrimal sac several times during the course of treatment. It may be said that the prognosis of epiphora during infancy is comparatively favorable.

30 North Michigan ave.

ETIOLOGICAL FACTORS OF CHRONIC CONSTIPATION.*

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It is needless for me to tell you that there are many individuals who may evacuate the bowels once in two or three days and feel comparatively no ill effects from such cause, or others, who may become very uncomfortable the day they do not have a free movement. I only wish to enumerate the many causes that lead to constipation and its ill effect; for this purpose I thought best to outline them in group form, and I promise you to be brief.

Group 1.—To this group belong patients with congenital or acquired enteroptosis, especially women who have borne children; those with diastasis recti, and pendulous abdomen; women with relaxed perineal following laceration, resulting in rectocele and cystocele; the habitus enteroptoticus associated with general malnutrition and atony of the large bowel from chronic disease of the mucosa.

The presence of tumors, physiological or pathological, pressing abnormally upon the bowel. Constrictions of all kinds, peritoneal bands or adhesions, chronic appendicitis, especially the retrocecal type, pancreatitis and gall bladder attacks treated constantly with opiates and laxatives, leave behind a persistent constipation.

Hypertrophy of the prostate gland, displacement of the uterus (retroflexion), peritonitic adhesions—between the abdominal wall and female genital organs, also adhesions between the small intestines, the strangulated and simple inguinal hernias, internal and external hemorrhoids, thrombosis and polypi. Benign and malignant tumors in the colon and rectum, hypertrophy of the valves of Houston and sphincter muscles, producing constant irritation and spasm.

*Read before the N. W. branch, Chicago Medical Society, December, 1917.

The chronic dilatation of the sigmoid flexure observed frequently in children due to excessive length of the mesentery and allowing a kinking of the colon in this place, first described and therefore called Hirschsprung's Disease.

Group 2.—Those who delay the evacuation, due to inconvenience.

To this group belong school girls and individuals living in boarding houses, especially women, who, on account of shame, will rather suffer than approach the public situated lavatory. Office people and business men on account of urgent business demands will resist the call of evacuation of the bowels, leaving it always to a more convenient time, and the normal sensation of the rectum has gradually been lost through the unnatural suppression of the desire to go to stool until this part of the body becomes sluggish and atonic. Same condition is also observed in children neglecting the call of nature while at play and oftentimes the evacuation of the bowels is painful due to hard feces, and children will try to delay the act as long as possible.

The physiology of constipation according to the description of Earle, is as follows:

The stomach and intestines are insensitive to tactile and thermal stimuli; while the esophagus and rectum are sensitive. The rectum appears to be more sensitive than the rest of the intestines to distention, but prolonged distention by feces in the rectum, leads to a blunting of its sensibility.

Group 3.—To this group belong—those due to dietetic errors.

A coarse diet which leaves too much residue, or a diet which leaves too little—such as milk, concentrated meat soups and jellies, tea and claret, because of their contents of tannic acid and lack of water, producing a dryness of the intestinal contents or a deficiency in the secretion of the intestinal fluids, especially the bile.

Individuals, who through ignorance, have subsisted largely on proteid foods, avoiding vegetables and fruits, not considering them nourishing and strengthening, or persons who acquire knowledge through the newspaper channels believing in starvation, or eating the minimum.

Group 4.—Nervous Influences.

Constipation occurs in hysteria and neurasthenia from impairment of the innervation of the intestinal wall in which case the musculature may

be relaxed completely, or contracted. Disturbances of intestinal innervation in tabes dorsalis frequently lead to constipation, due to the fact that the patient has largely lost the normal desire to go to stool. The cessation of the act of defecation or involuntary reflex, may be due to paralysis of the voluntary control of the sphincter ani as a result, not only of organic or functional central nervous disease, but also of local inflammatory process.

In constipation of mucous colitis, membranous enteritis designated by some authors as a myxoneurosis of the intestinal canal, a contracted condition of the colon exists, and a large amount of mucus is produced as a result of the absorption of the fluid contents; the mucus assumes a membranous formation which may be evacuated alone or mixed with feces.

Chronic lead poisoning also causes constipation, due to paralysis of the splanchnic nerves which are the inhibitory nerves of the automatic ganglia of the intestinal wall. Byron Robinson demonstrated conclusively that enteroptosis offers opportunities for visceral neurosis and retention of feces and that the periodic peristaltic movements of the intestines belong to the sympathetic nerves. The constant traction of the hypogastric plexus acts unfavorably on the motor ganglia supplying the intestines. The contraction of the small intestines depends entirely upon the autonomic or sympathetic and is wholly independent of the pneumogastric. The chronic inflammatory condition of the internal genital female organs, also gives rise to atony of the bowel through the pelvic ganglia of the autonomic or sympathetic nervous system.

The constipation in the aged and anemic individuals is due to a deficiency of blood supply and deficient intestinal secretion.

Such condition fails to stimulate the visceral ganglia of the sympathetic nervous system, which governs the peristaltic movement of the intestines.

Group 5.—The Emotional Disturbances: Rage, Anger, Fear and Worry.

Walter B. Canon, in his studies on the bodily changes, mentions the fact that such psychic states as worry and anxiety check the activity of the colon, thus causing constipation. Patients obliged to undertake new and unaccustomed work, especially such activities as may threaten with bodily injury, such as unaccustomed sew-

ing machines or other implements whereby the finger or the hand may be caught; at the beginning of such or similar work an attack of constipation frequently sets in.

The fear and anxiety about the health condition of a member of one's family. Changes of locations from one's habitual quarters, changes of food and habits, as one may experience during vacations or prolonged railroad journeys, crossing the ocean, etc., immigrants unaccustomed to the mode of living in this country, worrying about a livelihood or troubled with homesickness, invariably suffer with constipation.

A woman who became quite ill, due to persistent constipation, told me that she never suffered before with this malady until she came to this country. Her food and habits were not changed very materially, but the condition of her children's income was so unstable, and the daily reports in the papers of various accidents caused her very much anxiety and fear—that, to my mind was the sole cause of her constipation.

A fireman told me that the majority of his comrades suffer with obstinate constipation at the beginning of their work, due to the sudden demands of their activities, at unusual hours.

An engineer, while a student, was ordered to examine an elevated structure over the river where the ties were wide apart showing the water stream plainly below. At the beginning he told me he was afraid to walk on it, but being in company with other students was ashamed to back out. The first few steps from one tie to another, he said, I felt a great weakness in my knees and an immediate desire for evacuation of the bowels, but waiting a few seconds, I tried to suppress the desire with all my might and since that incident I am compelled to take laxatives to move my bowels, otherwise I remain constipated."

Group 6.—May be called delay for occupational and anatomical reasons.

To this group belong many officials, book-keepers, coachman and chauffeurs, students and many artisans who are seated the greater part of the day, also obese persons who take little or no exercise during the day, or do not go to stool as frequently as they should on account of the inconvenience, or because it is difficult for them to use the abdominal muscles at stool. In connection with this, I wish to recount the mode of

defecation practiced by the semi-civilized, I have in mind the Russian peasant from the small towns and villages.

The modern water closet or the old style privy is not known there. The evacuation is performed in the adjacent alleys, back yards or in the fields in the sitting position. You will notice that this position presses the abdominal viscera antero-posterior, thus facilitating the evacuation forcibly. If you will compare this with the posture of the modern lavatory you will note the relaxed and comparatively comfortable seat, inclining the majority to reading or meditation, and after unsuccessful attempts to give it up for a more suitable time, or finally by determination, the movement can only be completed by bending forward, thus compressing the colon. I would, therefore, suggest that the lavatory chamber be changed to one with the front elevated so as to force the abdominal muscles by contraction of the abdominal recti and lavator to compress its contents thereby facilitating the movement and encouraging the occupant to complete the physiologic necessity.¹

The Treatment Can Be Divided Into Prophylactic and Causative.—The prophylactic can be accomplished by educating the mothers and teachers to establish in children the habit to go to stool regularly, and to impress upon their mind, that the suppression or delay of evacuation, brings innumerable bad results.

The causative is obvious; a diagnosis should always be sought. A careful history of the anamnesis, mode of living, and occupation should be taken; a thorough physical examination should be made.

Medical cases should not be treated surgically; nor surgical with medicaments.

Mechanical treatment such as massage, hydrotherapeutic, hygienic, especially for neuropathically inclined, rest in bed, etc., with diet are indicated. If practical the lavatory chamber should be changed for the form described.
1642 W. Division street.

EYE MUSCLE IMBALANCE.

ROBERT VON DER HEYDT, M. D.,
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The muscles participating in ocular motion are the four recti and two obliques. The associated co-ordinated changes necessary for binocu-

¹Jour. A. M. A., May 18, 1918, page 1457.

lar vision in the various directions are very complex and in certain details not yet fully understood.

In adduction or the converging rotation the interni are aided to a degree by both superior and inferior recti, which latter are also inward rotators owing to their slight nasalward insertion.

The greater the degree of convergence the more do the upper and lower recti act as adductors. The obliques are rotators of the eyeball on an approximately antero-posterior axis.

In abduction or turning the eyeball outward the external recti functionate as a pair slightly aided in the horizontal plane by both obliques. Abduction or divergence is never necessary beyond parallelism of the visual axes for distance, hence as a combined muscle pair action is but little required, excepting to overcome spasticity of the interni or a convergence as in esophoria.

Therefore the reduced muscle ability in abduction compared to that necessary for adduction in the so much exercised convergence for binocular vision at the near point.

Muscle irregularities can be placed under the following three headings, paralyzes, heterotropias, heterophorias. In paralyzes individual muscles or groups are partially or completely out of service. There is a limitation of motion and if recent in onset and vision is sufficient in both eyes, a diplopia, when the object to be observed is placed in the zone of the domain of action of the paralyzed muscle.

This diplopia manifests itself just a little before the test object enters the zone of action of the paralyzed muscle, due to the slight spastic contraction of the now unopposed opponent. As the object is moved farther on, the separation of the two images increases.

Heterotropia is concomitant squint, a deviation in which all muscles functionate, yet they cannot bring about parallelism. If this condition can be discovered in its incipiency and certain accessory features that are helping to produce it eliminated, most especially the refractive errors, or if we can stimulate the usually present reduced visual acuity of the deviating eye, by forced usage, the squint may be avoided and a more favorable condition of heterophoria substituted.

Heterophoria is defined as muscle imbalance

always or in part of the time correctable by individual muscle action, which latter thereby brings about parallelism.

In order to picture this condition in a most simple manner to ourselves we can, for instance, imagine the position of our visual axes with lids closed. Normally they should now be parallel in the direction of infinity. If our eyes diverge when thus closed we have exophoria; if they converge esophoria, and if the visual axis of one eye inclines upward from the plane of the other it is called hyperophoria. Opening our eyes brings the fusion tendency into play and by muscle action the visual axes are corrected.

Which degree or type of "phoria" gives rise to discomfort, fatigue, headache or other symptoms and whether it should be corrected by the wearing of prisms or operative measures, is a point over which there is a great diversity of opinion. THE CORRECTION OF HETEROPHORIAS OR LATENT

DEVIATIONS

The measuring of these defects is done with the Maddox rod placed over one eye and the red glass over the other. The candle is to be at least twenty feet distant. In addition we must place into the trial frame the proper distant correction for the patient. The interpupillary distance is to be correctly adjusted. Tests should not be made when the eyes are in an abnormal state as for instance when under a cycloplegic or when fatigued.

In this test we so distort the object as seen with the one eye that all normal desire for fusion is eliminated. We can now measure the degree of deviation with the prism bar.

Exophoria.—This divergence tendency of the visual axes is rarely of such a degree that the normally present large amount of converging ability is insufficient for comfortable distant vision. Most defects of this nature giving rise to discomfort at all, bring it about when the necessary extra converging for the near point is in demand. Normally one should be able to converge at least to a point about four inches from the nose. At the average reading distance we measure with the dot and line on a card using an eight or ten degree prism base exactly downward over one eye to cause diplopia. In presbyopia we include the addition for the near point to the correction.

If the degree of divergence is a relatively con-

stant one, several tests at different times being necessary, and if lenses otherwise correct have given rise to discomfort, a partial correction for this defect (prisms base in) may be included in the lenses worn for near work.

It is safer to greatly under-correct, giving no more than half of the degree of exophoria in the form of prisms, and often less is sufficient.

An insufficiency of convergence or underdevelopment of it is common in myopia. In the medium and higher degrees binocular vision at the near point is practiced only by the few who have received correcting glasses in youth. This lack of converging function gives rise to the discomfort experienced by recent middle aged converts to concave lenses when they try to do near work with them.

A greater number of these cases would be found, were it not for the relatively many myopes who are by habit monocular, brought about by the radically different degrees of refractive error in the two eyes or an increased destruction by choroiditic processes in one eye, which predispose to preferred use of the eye with best visual acuity.

A wider interpupillary distance, acting as prisms base in can be given to avoid fatigue of the internal recti; or an undercorrection of the myopia is necessary—this to be followed by an increase, as the ability to comfortably accommodate and converge is gradually developed.

Esophoria—or insufficiency of the external recti—is quite rare. An apparent convergence is, however, the most common condition found, when we measure at twenty feet with the Maddox rod. This pseudo-esophoria is due to unconscious accommodating—therefore converging—efforts, or slight habitual spasticity of the internal recti.

The latter conditions are common in hypermetropes when under corrections have been worn and especially when they have had no glasses. In esophoria with hypermetropia it is usually sufficient to correct the latter defect only with as full a correction as can be comfortably worn. If symptoms persist a partial correction of the esophoria by prisms base out can be given a trial if the adducting power is sufficient to overcome them for near work.

So-called esophoria for distance with ex-

ophoria for near, as is often described, is so marked a limitation of the sum total of abducting and adducting power of the individual, that I can only conceive it as esophoria with a paresis of the internal recti.

Hyperophoria.—It is my conception that so-called hyperophoria is not a muscle imbalance in the strictest sense but a pathologic upward or downward deviation of one of the visual planes.

A "phoria" is considered a latent imbalance which can be corrected by muscle action. Physiologically there can be no action whereby one superior rectus can raise that individual eye or an inferior depress it when looking straight ahead, hence hyperophoria is an impossibility and the condition should be termed hypertropia. If the degree of defect is small, fairly perfect fusion may be possible. A greater amount must cause a definite diplopia unless the ability to suppress one image has been developed.

These conditions are quite common, give rise to much ocular discomfort and are greatly benefited by a prism base down over one eye. At least, three tests on as many forenoons are necessary and almost a full correction by a prism of the greatest deviation found may be safely tolerated.

Prism Exercise.—In exophoria, for example, the impaired internal recti are in constant maximum effort to overcome their weakness. If the extreme amount of continued exercise thus brought into play is not sufficient to develop these muscles so that they can produce the necessary convergence without symptoms of fatigue or diplopia, a comparatively very temporary use of prisms to overcome in addition, will not bring out any latent possibilities. Savage admits that the great objection to prism exercise is that people cannot be made to persistently carry it out.

It is a matter of opinion as to whether the Maddox rod test for muscle errors should be added to the routine refraction. In the first year of refraction work I would advise beginners to give their best efforts to correct precise refractive work and intelligent prescribing and later add muscle testing to their routine. Prisms added in the position of rest for some selected cases of exophoria and many of hypertropia or vertical deviation give excellent results.

ILLINOIS MEDICAL JOURNAL

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JUNE, 1918

Editorial

THE SPRINGFIELD MEETING

With the annual meeting at Springfield another mile-stone in the history of the Illinois State Medical Society has been passed.

There was a surprise in store for the officers of the Society in the large registration. It was not expected that the attendance would even approximate that of preceding years. The Secretary's cards showed 600 signatures, this being within 100 of last year's record.

Many members, always on hand at the annual sessions, were absent this year. Reports show many of them to be in the Army service. A few have crossed the great divide.

Many new faces were seen, and it was rather remarkable that they were mostly of the younger members. This fact was due partly to the fact that many of our members wanted to see the other doctors and hear the other doctors' views

of the one big question of the day. Many members, we believe, wanted especially to hear directly from the Government how great the need of medical men for the service is; and we believe that some of these members will be heard of next in the service.

The section meetings were interesting and fairly well attended. The Secretaries' Conference and the Section on Public Health and Hygiene were better attended than last year. The general session devoted to war topics was the important one, and it convinced our members, as nothing else has, of the need of medical men in the Army.

The alumni dinner was one of the big things, and of especial interest was the address of the Representative of the Bolivian Government, Senor Don Ignacio Calderon. We hope to have the Senor's address for publication next month.

Altogether the meeting was a most successful one.

OFFICERS ELECTED.

The official report of the Springfield meeting was not ready in time for publication in the June issue of the JOURNAL. Next month we will publish the entire proceedings of that session. Below we give the names of the officers elected

Officers elected at 68th Annual Meeting of the Illinois State Medical Society, Springfield, May 21-23, 1918.

President Elect, J. W. VanDerslice, Chicago.
 First Vice-President, H. C. Blankmeyer, Springfield.
 Second Vice-President, Clara Seippel, Chicago.
 Secretary, W. H. Gilmore, Mt. Vernon.
 Treasurer, A. J. Markley, Belvidere.
 Councilor, District No. 3, Clyde D. Pence, Chicago.
 Councilor, District No. 6, H. P. Beirne, Quincy.
 Councilor, District No. 9, C. W. Lillie, East St. Louis.
 Councilor, District, one year, No. 4, T. W. Gillespie, Peoria.
 Alternate Councilor, District No. 1, C. E. Crawford, Rockford.
 Alternate Councilor, District No. 2, J. H. Edgcomb, Ottawa.
 Alternate Councilor, District No. 3, S. J. McNeill, Chicago.
 Alternate Councilor, District No. 4, C. J. Eads, Oquawka.
 Alternate Councilor, District No. 5, F. C. Gale, Pekin.
 Alternate Councilor, District No. 6, L. O. Frech, Whitehall.
 Alternate Councilor, District No. 7, W. W. Murfin, Patoka.

Alternate Councilor, District No. 8, H. N. Rafferty, Robinson.

Alternate Councilor, District No. 9, W. F. Grinstead, Cairo.

Delegates to A. M. A.—R. J. Coultas, Mattoon; T. D. Doan, Scottville; E. B. Coolley, Danville; C. E. Humiston, Chicago; L. Hektoen, Chicago; C. W. Leigh, Chicago.

Alternate Delegates—J. Sheldon Clark, Freeport; J. E. Tuite, Rockford; J. E. Coleman, Canton; Alice Conklin, Chicago; W. D. Byrne, Chicago; J. R. Ballinger, Chicago.

Section on Surgery—H. A. Millard, Chairman, Minonk; C. W. Poorman, Secretary, Chicago.

Section on Medicine—H. W. Cheney, Chairman, Chicago; Elizabeth B. Ball, Secretary, Quincy.

Section on Public Health and Hygiene—W. H. Cunningham, Chairman, Rockford; G. G. Burdick, Secretary, Chicago.

Secretaries' Conference—T. D. Doan, President, Scottville; F. C. Gale, Vice-President, Pekin; L. O. Frech, Secretary, Whitehall.

Section on Public Health and Hygiene—W. H. Chicago; H. N. Rafferty, Robinson; C. W. Lillie, East St. Louis.

Committee on Medical Legislation.—Don Deal, Springfield; N. M. Eberhart, Chicago; Edward Bowe, Jacksonville.

Committee on Medical Legislation—Frank Buckmaster, Effingham; Martin M. Ritter, Chicago; H. J. Stewart, Chicago.

Medico-Legal Committee—C. B. King, Chicago, three years; F. C. Fisher, Bloomington, three years; E. E. Edmondson, Mt. Vernon, two years.

Meeting place for 1919, Peoria.

MEDICAL WOMEN OF ILLINOIS

To the Women Fellows of the American Medical Association:

The medical women of Illinois are looking forward to meeting and entertaining the women physicians of America in Chicago next June.

The Hospitality Committee has reserved an entire floor of rooms at the Hotel La Salle and will be glad to make reservations for those who wish accommodations. Dr. Grace H. Campbell, chairman, 25 E. Washington street.

The banquet for all the women physicians will be held on the evening of June 12th.

Headquarters for our visitors will be established at the Chicago College Club, seventeenth floor Stevens' Building, 16 N. Wabash avenue. This is located in the heart of the business district and is a few minutes' walk from the principal meeting places and general headquarters of the A. M. A. Have your mail forwarded here,

meet your friends here, take luncheon and supper here and rest between meetings.

On Tuesday, June 11, Dr. Mabel Ullrich of Minneapolis will deliver an address in the Assembly Room of the Chicago Club from 12 to 1 o'clock.

Five days of clinics are to precede the regular meeting. This will bring many physicians into the city who will be here over Sunday and will give us an opportunity for meeting socially Saturday afternoon and Sunday, June 8 and 9. We should, therefore, like very much to hear from every woman physician who is coming to Chicago during the A. M. A. convention, informing us the date and time of her arrival and her address in the city, so that we may arrange some fellowship gatherings.

We particularly desire to be of service in any capacity, either before your arrival or afterward, and shall be glad to have you communicate with us if there is anything we can do for you.

We are anticipating a large gathering and a happy time.

CLARA P. SEIPPEL,

Chairman, Medical Women's Committee,
A. M. A., 25 E. Washington St., Chicago.

DONATE A HOSPITAL TO PARIS

Another patriotic movement has been started in Chicago, and is known as the Paris "Chicago Hospital" Foundation. The plan is already started; in fact it is incorporated under the laws of Illinois, and several thousand dollars have already been subscribed.

When this war is over, France will need all that America can give her. No doubt much will be given her in the way of aid for her people during the war; much will be given doubtless to help sustain her armies throughout this terrible conflict, all of which we have owed her for more than a century.

That which we are doing in France now is not for France. It is for American liberty—for the preservation of American homes. When peace comes America must aid in the upbuilding of France and Belgium. America must aid in upbuilding those nations and the homes in those nations. A great part in upbuilding those broken homes of France will be the upbuilding of the sick and crippled soldiers, women and children of France. After the excitement of the battle,

after our own come home, we may forget that which is our duty. America must be ready to help at once when peace time comes, and not be compelled to wait for organization. Germany is bombarding the French hospitals whenever possible and perhaps next to food, hospitals will be the most necessary want of the French and Belgium people.

With the desire of helping broken France in every way possible, the idea was conceived of a "hospital foundation" to help restore to a physical fitness her people. Mrs. Archibald Freer, treasurer of the organization, is energetically working for the success of the hospital, and her energy almost insures the undertaking. We print below the letter of solicitation of the directors.

PARIS "CHICAGO HOSPITAL" FOUNDATION

(Incorporated under the Laws of the State of Illinois)

Directors—Dr. Truman W. Brophy, Dr. C. N. Johnson, Mrs. Frank Sayre Cowgill, Mrs. Archibald Freer, Miss Margaret Williamson.

Address all communications to Mrs. Archibald Freer, Treasurer, 1736 Peoples Gas Building, Telephone Harrison 3647.

In consideration of past and coming events, this seems the proper time to raise a fund for the erection and equipping of a "Chicago Hospital" in Paris, France, "as a tribute to the nations whose sons have fought together for freedom."

To this end, representative citizens of Chicago and Illinois have undertaken to raise one thousand one-hundred-dollar subscriptions, as a beginning, and have had the Paris "Chicago Hospital" Foundation incorporated for the purpose of collecting, holding, investing and disbursing this fund. The money, as collected, will be invested in Liberty Bonds. The Peoples Trust and Savings Bank of Chicago has agreed to act as Trustee, to hold all bonds and moneys collected. The fund and the income derived therefrom will be kept intact by the Trustee until after the war, with the exception of the deduction of necessary minor expenses involved in the collection of a large fund, and the management of the trust. At the end of the war, plans will be immediately concluded to build and equip the "Chicago Hospital" in Paris.

This hospital will care for general cases, and it is further hoped to provide for a special department for women and children, a section for Dental and Facial surgery.

If the war should stop tomorrow, it would leave in its wake an appalling need in the way of attention to innumerable crippled soldiers and civilians with afflictions arising from forced privations. If the war continues, this need will be increasingly appalling. Countless refugees will return from Switzerland, Holland, Belgium, and the invaded districts of France, and they must be cared for as well.

The "Chicago Hospital" will be prepared to bring

comfort and hope to the unfortunate victims of this terrible conflict and in so doing will call vividly to the minds of the people of France the fact that citizens of Chicago and Illinois are grateful for the loyal service rendered our nation in early days by the distinguished men of France. *Let us raise this fund and raise it promptly.*

The first memorial room to be endowed in this Hospital is to be in memory of the late Dr. Henry Baird Favill. Why not dedicate memorial rooms to our war-heroes in this Hospital?

Money may be subscribed individually or collectively. Liberty Bonds will also be accepted in payment for subscriptions and may be delivered to The Peoples Trust and Savings Bank of Chicago, Trustee, in the Peoples Gas Building, for the Paris "Chicago Hospital" Foundation. The fund will be properly and safely cared for. A subscription from you or a pledge for one will be gratefully appreciated.

Checks may be made payable to Paris Chicago Hospital Foundation and sent to

Mrs. Archibald Freer, Treasurer,
1736 Peoples Gas Building,
Chicago, Illinois.

A SUMMER COURSE IN TUBERCULOSIS.

During the summer quarter there will be at Rush Medical College didactic clinics and conference course, Wednesday and Saturday mornings from nine to eleven o'clock, beginning Wednesday, June 19th, and ending Wednesday, August 28th.

They will take up first the academic question like the aetia of infection, heredity and disposition, infection and contagion, immunology, followed by etiology, histology and pathology, and taking up the diagnosis and treatment of tuberculosis in its various forms.

This course of instruction is directly in charge of Dr. John Ritter, Assistant Professor in Medicine, assisted by members of the dispensary staff. This course is open to practitioners of medicine. For particulars address, Rush Medical College, 1748 West Harrison street, Chicago.

NURSES NEEDED FOR THE ARMY SERVICE.

The Surgeon General is calling for 25,000 nurses for Army service, and asking that all eligible nurses apply for the service. In a short time there will be other calls for nurses. Few people, we believe, stop to think what this means. American people have come to rely on and employ a large nursing service in normal times.

This demand for nurses has increased much faster than the supply, and for several years the number of practicing nurses has been inadequate, and the normal demand has not been filled. Now a war emergency has arisen; thousands of nurses will be needed and little if any special effort has been made to take care of the deficiency.

The three year training courses forced on an unsuspecting public a few years ago was the cause of an inadequate supply for normal times. Practically every physician knows, and most of them admit, that a three year training course is unnecessary. In fact there has been from time to time some discussion by physicians relative to the unnecessary time and training to which a nurse must submit in order to fit herself for nursing, or in order to practice. When one considers the time required to graduate from a course in medicine under the present high standard for that profession, and then considers that a nurse in order to be accepted for training must have an accredited high-school diploma and must complete three entire years of training in order to graduate and be accepted by the state as a registered nurse, so that she may carry out physicians' orders, the ludicrousness of the situation appears.

No doubt the three year training course was a good thing for the large hospitals, but the time has now come when many thousands of nurses will be needed to care for wounded and sick men. Obviously the supply can not be furnished under the present plan. We believe it to be foolish and unpardonable procrastination to longer tolerate the present plan. The time has come when the proper authorities should step in and tell the hospitals to institute at once classes for the intensive training of nurses. An intensive training of three or six months would accomplish great results in fitting young women to aid the Government in this crisis, and thousands of young women would join these classes, were they instituted.

We, of course, do not expect nor propose that young women with this short course of training would be fitted for operating room work, but they would be fully competent to do much of the work which will be required by the Government and will also be required at home. Such course given by every training school would accomplish a wonderful amount of good and would relieve the

nursing situation very much for the war emergency. We would respectfully suggest this procedure to the office of the Surgeon General as an emergency act for the benefit of both the Army and the home conditions.

ELECTION OF OFFICERS, CHICAGO MEDICAL SOCIETY.

To the Members of the Chicago Medical Society:

"In essentials, unity;
In non-essentials, liberty;
In all things, charity."

A sense of mutual trust; a sense of mutual duty to uphold the high dignity of our beloved and honored profession; with the highest ideal of service in mind, than which, knowingly, to a man, we should not dare accept less, embracing, among other things, kindest appreciation of the efforts each member may put forth for the better solution of the problems which confront us and an endeavor to bring even the smallest successes to light; with malice toward no fellow worker . . . this kindly creed, ever looking toward the highest good, should bring us all together to one purpose: these thoughts, only, prompt us to permit our names to go before you as candidates for the offices of President and Secretary, at the coming election of officers of the Chicago Medical Society.

May we have your support and vote?

With appreciation of your consideration we are,

Respectfully yours,

T. A. DAVIS, M. D.

V. D. LESPINASSE, M. D.

Kindly answer.

BANQUET TO OPHTHALMOLOGISTS.

give a banquet and reception in honor of the officers of the Section on Ophthalmology of the American Medical Association in the east room of Hotel La Salle at 6:30 o'clock, Tuesday evening, June 11.

All members of the American Medical Association are invited to attend. Price of plates, \$2.50. Reservations may be obtained from Dr. Alfred N. Murray, 4654 Sheridan Road. Telephone, Sunnyside 7244.

THE FIRST CHICAGO MEDICAL DIRECTORY.

W. A. EVANS, M. D.

CHICAGO.

In October, 1872, Dr. T. D. Fitch and Dr. Norman Bridge compiled The Chicago Medical Register and Directory. In the preface they announce their intention to publish the Register annually. At that time Chicago was 35 years old and had 367,396 inhabitants.

The Register devotes seven pages to the history of the American Medical Association, giving the names of the presidents and the places of meeting. The constitution and the code of ethics fill 37 pages. The history of the state medical society, including the names of the presidents, places of meeting and constitution, fills 24 pages. A list of 248 members of the state medical society is given. J. W. Lawrence of Carbondale, then St. Clair county, seems to have been the only member from the territory south of a line drawn east through Alton. In 1849 when the agitation for a state medical society began there were only two medical societies in the state—the Aesculapian Society of the Wabash Valley and one in the Peoria district. In 1872 the Aesculapian Society of the Wabash Valley was something of a rival of the state society. It had 48 members, mostly from the eastern central and eastern southern section of the state. The directory shows that there were 27 local medical societies in the state. The dates of organization of about half the medical societies listed is given. The largest was the Military Tract Medical Society with 104 members. The Adams County, organized in 1850, is probably the oldest county society now in existence.

The list of members of the Chicago Medical Society contains 68 names though a foot note states "This list is incomplete, the secretary's book having been lost in the fire; there are about twenty omissions." It is not clear just when the Chicago Medical Society was organized though it was probably in the Autumn of 1850. We read that on completing the organization Dr. L. D. Boone, at one time mayor, was chosen president. After the organization was completed and the first list of officers chosen the majority of the regular practitioners of the city became members and for a few months it gave promise of

success. But before the first half year had expired a member of the society used abusive language towards the president, for which he was expelled. At the "annual" meeting in April, 1851, Dr. W. B. Herrick was chosen president. At no other meeting in 1851 was there a quorum. In April, 1852, a quorum not being present, the meeting was adjourned *sine die* and the Cook County Medical Society was formed. In 1858 the Cook County Medical Society changed its name to the Chicago Medical Society.

The section of the book devoted to miscellaneous medical societies fills 40 pages. The 38 pages devoted to miscellaneous societies give information relative to the Alumni Association of Rush and Chicago Medical Colleges, the American Ophthalmological, American Otological, American Dental, Illinois Dental, Chicago Dental, American Pharmaceutical, the Chicago Academy of Sciences and the State Microscopical Society.

But three medical colleges are referred to. Rush was founded in 1842. In 1872 it was located at 18th and Arnold streets. The thirtieth course of lectures began October 22 and continued twenty weeks. The class of 1871-2 numbered 140. The faculty consisted of 11 professors and 6 assistants. There were 78 graduates in 1872.

The Chicago Medical College, founded in 1859, was located at Prairie avenue and 26th street. The fourteenth Winter session opened October 1 and closed March 13. The course of instruction was divided into three courses which all students were advised to take, but the arrangement permitted of the three courses being taken in two years. The number attending in 1871-2 was 101. 33 graduated. The faculty consisted of 16 professors and two others, one an adjunct professor and one a demonstrator.

The Woman's Medical was located at Paulina and Adams streets. It began its third course of twenty weeks' instruction the first Tuesday in October. It had 16 professors, 5 clinical professors and one demonstrator.

The Chicago College of Pharmacy was also in existence.

The Medical Register contains no reference to Hahnemann Medical College or Hahnemann Hospital or the faculty and staff of these institutions, although they had been in existence for 19 years. Certainly, for 15 years they had been

in continuous operation. The college has occupied its present location since 1870. From other sources I learn that the college had a faculty consisting of three emeritus professors, 10 professors and 5 lecturers and adjunct professors in 1872. Of that faculty I find only Dr. Charles Adams and Dr. E. H. Pratt living. Hahnemann Hospital in 1872 had 40 beds but an addition was built during that year. This contained an amphitheatre and room for the dispensary. It occupied its present site.

From other sources I learn that in 1872 Bennett College of Medicine and Surgery announced its fifth session. It was located at 461 South Clark street, but it did not have a hospital. It gave two courses of lectures of four months each during the year. The first course began October 3 and the second February 1, and students were graduated at the end of each course. The faculty consisted of 10 professors and 2 demonstrators, none of whose names are found in the Register. I find none of the 1872 faculty of Bennett in the last American Medical Directory.

Mercy Hospital was organized under state charter in 1850. It was known as the Illinois General Hospital of the Lakes. In 1851 it was transferred to the Sisters of Mercy and the name was changed to Mercy Hospital. In 1872 it "would accommodate 500 patients."

Cook County Hospital was located at 18th and Arnold streets. It was organized in 1865. In 1872 it had 250 beds. Treatment and board, \$7.00 per week in general wards; \$10.00 per week in private wards. Patients could be cared for free "if two members of the medical staff found them worthy."

St. Luke's Hospital was established in 1863. In 1872 it had room for 50 beds. St. Joseph's Hospital was organized in 1869. The Alexian Hospital was founded in 1866. Illinois Charitable Eye and Ear Infirmary was founded in 1858. Chicago Hospital for Women and Children was founded in 1865. The Jewish Hospital was founded in 1868, but it was burned in 1871 and not rebuilt. The Woman's Hospital was opened January 4, 1872. The Smallpox Hospital was located on the Lake Shore at the south end of Lincoln Park. The present Marine Hospital was under construction. There were 1,227 beds for patients in these hospitals. In addition to these hospitals the city sustained 11 dispensaries.

Hahnemann and Bennett were included. There were 11 "homes" and asylums in the city.

The Register chronicles the existence in Chicago of two medical journals—the *Chicago Medical Journal*, edited by J. Adams Allen and Walter Hay, which began its 29th volume January, 1872; the *Chicago Medical Examiner*, edited by N. S. Davis and F. H. Davis, which began its 13th volume on the same date.

The directory of Physicians' section is headed "List of Physicians in the City of Chicago and vicinity who are in good and regular standing as determined by the following revisors: J. W. Freer, president, Rush Medical; N. S. Davis, president, Chicago Medical; W. H. Byford, president, Woman's Hospital Medical; G. C. Paoli, president, Chicago Medical Society; D. B. Trimble, president, Association of Physicians and Surgeons, and D. W. Young, president, Illinois State Medical Society." 261 physicians are listed. Their addresses and office hours are given. In a few instances their hospital and college hours are also set down. Of the 11 physicians given in the first Chicago Directory as living in the city in 1839 none is given in this medical directory as practicing in Chicago in 1872. Of the 20 physicians given by Dr. Souchet as having moved to Chicago prior to 1837 and as probably in the city in 1837, not one is found in the 1872 Medical Directory. Several of the 20 were army surgeons temporarily serving in Fort Dearborn. The physicians in this list of 261 given as of good and regular standing and shown to be living in 1918 by the American Medical Directory Record are: Philip Adolphus, G. V. Bachellet, Wallace Blanchard, F. B. E. Bockius, Lester Curtis, D. W. Graham, H. Hooper, R. L. Leonard, R. D. McArthur, P. S. MacDonald, F. D. Marshall, William Martin, W. T. Montgomery, D. T. Nelson, John E. Owens, W. E. Quine, B. R. Van Doozer, Theodore Wild and J. F. Williams, all of Chicago, and Norman Bridge, Los Angeles; C. W. Burrell, Kansas City; A. Chenoweth, Bushnell, Ill.; W. S. Harroun, Santa Fe, and J. S. Stitt, Milwaukee—a total of 24. This does not include six names listed in the directory as "address unknown." I assume that these are dead.

In 1872 the Board of Health was composed of Dr. H. A. Johnson, Dr. John H. Rauch, Dr. George Schloetzer, Samuel Hoard, president,

A. B. Reynolds and Mayor Joseph Medill, ex officio. The sanitary superintendent and registrar of vital statistics, the chief executive officer of the board, was John H. Rauch. Dr. Rauch was a whole time officer on a salary of \$2,500. The health officer was Dr. John Reed. The city physician was Dr. John Guerin. The Board of Health at that time was operating under the law of March 9, 1867. This law provided for a board of six persons beside the mayor. These were appointed by the judges of the Superior Court. Three were required to be physicians. They were paid \$500 annually and they each furnished a bond of \$2,500. They met each Tuesday at 3 p. m. This was the first department of health of any consequence in Chicago's history. The reports written by Dr. Rauch in the earlier years of his administration are admirable documents. They show that that official had positive and advanced views on sanitation.

Correspondence

VENEREAL TREATMENT AGAIN

Chicago, Ill.

To the Editor: In your May issue Dr. Wm. Allen Pusey refers to my article which appeared in your March number and which deals with the subject of venereal diseases in the army. As a matter of fairness it seems no more than right that I be given a chance to answer some points in controversy.

Dr. Pusey says: "Prophylaxis is carried out in the infirmaries under the direct supervision of officers experienced in the work, etc., etc." That is all right so far as it goes, but does it go far enough? A man may be off 48 hours on a furlough. As an added safeguard wouldn't it be advisable to insist on copious use of soapsuds at time of exposure? The very practical article by Dr. Wm. T. Belfield, "Venereal Diseases in the Army—A Suggestion," appearing in *Journal A. M. A.*, issue May 4, 1918, strongly urges the careful use of soapsuds at time of exposure. His opinion is based on a long and large experience. I presume that the careful prophylaxis described as being carried out when a soldier returns to camp is carried out to the letter, but I have been told of one instance during the past winter where men returning after furloughs would find a bowl

of the dark solution awaiting them, but they would have to crack the ice and fish out a syringe that was immersed in the solution and they would be a little careless in their technique. This instance was probably just a little oversight, but it goes to show that too much close attention cannot be given in this matter.

As to the use of caustics for chancroids the Manual says: "Their (caustics) success depends on the thoroughness in destroying the infected area."

That is true; but whose eyes are expert enough to tell where the infected area ends. I have seen caustics do good in some cases, but in a majority they add insult to injury and cause increased destruction of tissue and spread of the infection or other bad end results. Dr. Pusey's long experience in treating ulcerations would probably make him a good judge as to which should be cauterized and which should not, but the man of less experience would probably do more harm than good if given caustics to use in certain selected cases. All in all I feel that my suggestion to avoid caustics and use plenty of soapsuds and ether is not a bad plan. In a limited way the board allow the use of dusting powders along with other treatment in chaneroids. I firmly believe that no dusting powder should ever be applied to such ulcerations. In balanitis gangrenosa the board do not mention soapsuds, but suggest hydrogen peroxide in the form of a wash or continuous irrigation. That hardly looks like good judgment. Along with my possibly uncalled criticisms on the methods of treatment advised by the board I would like to strongly endorse their advice to not attempt to incise a suppurating bubo until it is completely broken down and fully ripe. I have seen untold damage done in attempts to incise little so-called pus pockets before the gland is fully suppurated and walled off.

As to treatment of syphilis Dr. Pusey says: "As a matter of fact, the manual gives the slightest preference to the insoluble preparations for injection." In the manual I find the following under the head of treatment for syphilis: "A course of mercury should consist of six or eight weekly injections of an insoluble salt or 35 to 45 daily injections of mercurial ointment." Most surgeons would follow the above suggestion notwithstanding that soluble preparations are spoken of and partly endorsed later.

I in no way desired to intimate that the board recommended sodium cocodylate; arsenic is not the drug that will cure syphilis, and if used in conjunction with mercury injections it in some way interferes with the powerful specific action of the soluble mercurial injections. Mercury works best alone, but salvarsan or diarsenal are sometimes necessary to clear up a destructive or deep-seated syphilitic lesion. The "Neo's" of all kinds are far inferior to the salvarsan or diarsenal, and I prefer diarsenal to the present salvarsan.

Dr. Pusey says: "I have before me the most recent monograph on the treatment of syphilis that I know. It is by Dr. L. W. Harrison, lecturer on Venereal Diseases, etc., etc. In addition to being a syphilographer, Dr. Harrison can speak on the basis of some military experience, a point about which Dr. Mowry has some *concern*, for he has no less a military decoration, etc., etc." I take this absolutely as stated, but should Dr. Harrison's experience be valued as much as the real war experiences and suggestions of the French surgeons who have labored incessantly to keep the man power up to the highest possible efficiency? These French surgeons have been emphatic in their statements that they have accomplished great results in quickly and permanently eradicating syphilis by the large intramuscular injections of soluble mercurials. Their enormous experience and results should be given careful consideration when it comes to advising methods of combating syphilis that will give the quickest and best results. I may be *concerned*, but I firmly believe that experience in war during real war times is of the greatest service. Notwithstanding what our Ordnance Department thought the best gun or aircraft for actual warfare they are ready to take and act on advice from their allies as to what they have found to be the most effective types to deal deadly blows. The same is true in the matter of treatment of wounds and other actual war problems. Much that is doing good in our army today is the result of actual war experience and mistakes of men who served in the Spanish-American war. I might cite one or two experiences that taught me something:

Along with a number of recent graduates and students of Northwestern University Medical School I enlisted as a private at the onset of the war. There were but few commissions for

surgeons then, and we could hardly hope for one. Thousands of troops were sent to Springfield and accommodations and equipment were lacking. The first night I had neither tent or blanket, but finally found a small pile of straw. I felt that our regiment and the 7th had been discriminated against in the matter of comfort for the other regiments were allowed to crowd into the State Fair buildings and we had been forced to do the best we could in the open. Many of the soldiers that had been crowded into the badly ventilated fair buildings became ill with such diseases as pneumonia, while we seemed in a way to be free from sickness. We learned by actual experience that poor ventilation was a dangerous thing and our observations helped to get the splendid ventilating methods now in use. Our food was greasy, too much the same and unpalatable and many of us felt weak because we could hardly force the food down into our stomachs. Imagine the joy that I experienced when Col. Young told me that Gov. Tanner had given me a commission as Asst. Regimental Surgeon and that I was to report at headquarters mess that noon. The food given me there was well prepared and of a good variety. I could feel myself improve physically from the first good meal and I realize as but few can how helpful it is to the welfare of the army that our soldiers are being so well fed on good appetizing food and with my Chicamauga stomach still fresh in my memory I can live up to the food commissioner's suggestions with a hearty approval regarding wasting or eating forbidden foods. Many other real observations and experiences gained at that time have enlightened us and our soldier boys at present get a pretty fair deal.

There is one part of Dr. Pusey's article that I feel is unfortunate and that is where he gives his personal belief that "I have gotten to feel as far as the treatment of syphilis is concerned it probably does not so much matter what preparation of mercury is used or how it is administered provided only the patient gets a sufficient quantity of mercury and in a way that does not damage him in administering of it." His well-known reputation will be the cause of many physicians defending and using old, obsolete and unsatisfactory methods of attacking that horrible disease.

I feel sure that there is all the difference in the

world so far as results are concerned in the different methods of treatment of syphilis.

I do not make this statement in an overnight enthusiasm, but after fifteen years extensively and continuously using soluble mercurial injections. In a crude way I might suggest my beliefs as to treatment of syphilis:

Treatment by mouth such as protiodide, biniodide, tannate of mercury, and many others. Very few if any cures.

Iodides. No curative value.

Insoluble mercurial injections with or without salvarsan, etc. A few cures. Inunction properly administered. Some cures.

Small dose of bichloride of mercury intramuscularly (1/30th gr.) Some cures.

Large doses bichloride or benzoate of mercury intramuscularly (1/4 to 1/2 gr.) three times a week for 15 weeks will practically cure all cases of early and most cases of later syphilis, and is best used alone without alternating with arsenic, unless absolutely needed. I hope that surgeons who have used insoluble mercurials and neosalvarsan, etc., will give soluble mercury a fair trial before making final decisions or going back to old methods by mouth.

I may be wrong, and if time so decides, I will have to take my medicine with a good grace. The army board have given some mighty good advice, but I still feel that a little well-meant criticism along a few lines might be in place and eventually do a little good.

ALBERT E. MOWRY, M. D.

MILITARY WRITERS' ATTENTION.

Attention is directed to the fact that on March 27, 1918, your co-operation was solicited in a memorandum explaining the necessity for medical officers conforming with the regulation of securing authority from this office before publishing professional papers.

Further attention is now called to that portion of the memorandum for division surgeons which makes it necessary to submit professional papers to this office *in duplicate*. Will you kindly aid this office by submitting *two* copies in every instance.

By direction of the Surgeon General.

(Signed) C. L. FURBUSH,
Colonel, Medical Corps, N. A.

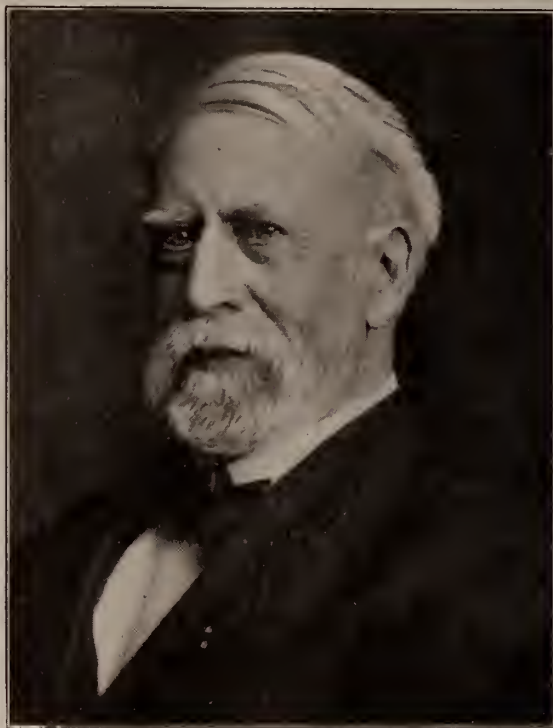
Obituary

DOCTOR WILLIAM O. ENSIGN.

ANOTHER OF OUR GREAT PIONEERS TAKEN BY DEATH.

William Oren, twelfth child and seventh son of Doctor Calib Wadhams and Orpah Deming Ensign, was born at Madison, Lake county, Ohio, June 26, 1841, and died at Rutland, Ill., May 8, 1918.

For more than a year Doctor Ensign had been in failing health, being a victim of angina pec-



Dr. William O. Ensign.

toris. He had hoped to be able to present to the Illinois State Medical Society as a centennial contribution, a history of its work accompanied by interesting facts of his knowledge of the general medical history of Illinois, but this illness made it necessary for him to resign this ambition much to the disappointment of his friends.

He came of medical lineage, his father having been a doctor in Ohio. He was of that sturdy Puritan stock which has contributed so much to the upbuilding of America. His mother was a descendant of William Bradford of the Mayflower Pilgrims, who was governor of the Plymouth colony for 27 years. He traced his

father's line back to the sixteenth century when his ancestor, William de Ensign, was prominent enough in English affairs to have a coat of arms. His American ancestor, James Ensign, located at Cambridge as early as 1630 and later was of the party which settled Hartford, Conn. Both of his grandfathers were in the Revolutionary war and he served throughout the Civil war, having enlisted at the outbreak of the war in the 14th Ohio Independent Battery, which he served as a corporal or gunner until the expiration of his term of enlistment, August 20, 1864, when he was honorably discharged. He returned to his home in Ohio for a short time, but in July, 1865, arrived in Illinois at the home of his brother, Robert, near the town of Dana. Here he taught school, clerked in a store and became owner and proprietor of a general store, but he found time to begin the study of medicine in June, 1866, in the office of Dr. H. A. Almy of New Rutland (now Rutland). On Feb. 25, 1869, he took the degree of M. D. from Charity Hospital Medical College, afterward affiliated with Western Reserve at Cleveland. Later he received *ad eundem* degrees from the Western Reserve University and Wooster University, both of Cleveland, Ohio.

He immediately began the practice of medicine at Rutland, where he made his home during the remainder of his life. In 1869 he was married to Frances J. Almy, the daughter of his preceptor, and to them were born four children.

It is not too much to say that Dr. Ensign was one of the best known members of the Illinois State Medical Society. He represented a class in the medical profession of which we have all too few. He was interested in all of the affairs of the community. He was closely connected with the church; superintendent of the Sunday school; a member of the various lodges; a member and president of his village board of trustees; for many years president of his local board of education; a charter member of Rutland Post G. A. R., and one of the founders and the first commander of the Big Bend Veteran Reunion Association; was active in Masonry, having taken his first degree in 1866 and became a Knight Templar in 1872. But better and more important than all these activities was the fact that he was the community's doctor and confidential adviser for nearly half a century.

While Dr. Ensign's professional services were confined to his community, his professional activities were as wide as the profession itself.

This was the striking difference between him and the great majority of community doctors. Notwithstanding his isolated location and large clientele, he found time to take an active interest and an active part in everything that went on in medicine. His various contributions to medical literature show that he was a student and thoroughly abreast of the times. His name is forever linked with the organization of the La Salle County Medical Society and the North Central Medical Society.* During the whole period of their existence there was no more active, progressive member of these organizations.

In 1873 he became a member of the Illinois State Medical Society and few of its members have a longer list of activities in that organization to their credit. In 1887 he was elected president of the Illinois State Medical Society, having served the previous year as vice-president. He was three or four times a delegate from that society to the American Medical Association. Few members served more frequently on important committees of the State Society, and when it came to the reorganization of the Illinois State Medical Society and the American Medical Association he was an active member of the important committees which brought about those reforms. After the reorganization he was a member and the first chairman of the new council or board of directors of the Illinois State Medical Society, and served in that capacity for a number of years.

He has presented a goodly number of papers to medical societies on purely scientific subjects and in addition to these he always took an unusual interest in the history of medicine, especially in connection with the various medical societies with which he was identified.

In 1895 he presented a report on the Illinois State Medical Society organization and history of the Illinois State Medical Society which was published in the Transactions and stands as one of our best sources of historical information. In 1900 he published a history of the Illinois State Society organization. In 1908 he wrote a voluminous article on Medical Societies in Illinois, which was published in the ILLINOIS MEDICAL JOURNAL, and also contributed a history of the North Central Illinois Medical Association. It is not too much to say that no one was more familiar with the history of medical organization

*See History of Medical Organization in La Salle County, in Illinois Medical Journal, May, 1918, page 288.

and especially with the organization of the Illinois State Medical Society. His activities were not confined to his county, district and state society. Besides the American Medical Association he was an active member of the International Association of Army and Navy Surgeons; the American and International Association of Railway Surgeons; the Illinois State Historical Society; the American Association for the Advancement of Science and many others.

With the passing of Dr. Wm. O. Ensign the medical profession of Illinois loses one of its unique characters; one who always stood stoutly for right and justice; one who on all occasions gave his views fully and frankly and one who loved the traditions of his profession and cherished the memories of the pioneers although keenly alive to professional and scientific progress.

DR. JOHN T. MILNAMOW.

It is with a deep feeling of sorrow that we announce the death on April 22nd of a noble and beloved comrade, Dr. John T. Milnamow. No man was ever more devoted to his chosen profession than he, or ever gave more of his skill and his strength to aid his fellow men without considering the compensation.

In his death the state has lost a noble and valuable citizen, the medical fraternity a skillful and conscientious practitioner, and the wife and son a devoted husband and father.

Dr. Milnamow was born in Cortland, Ill., on February 2, 1855, and graduated in medicine from the Northwestern University Medical School with the class of 1882. After serving an internship in the Mercy Hospital, Chicago, he located on Washington Boulevard near Crawford Avenue, where he built up a very large practice. He was married on October 30, 1889, to Miss Elizabeth Fitzgerald of Chicago.

For some time Dr. Malnamow was connected with the College of Physicians and Surgeons as teacher of physical diagnosis. He also served as local surgeon to the C. & N. W. Ry., and for several years before his death he was president of St. Anne's Hospital medical staff.

ANTHONY RUD,
C. E. LARKIN,
W. M. WATERMAN,
Committee.

Public Health

VENEREAL DISEASES

REGULATIONS EXPLAINED

OBSERVANCE DECLARED PATRIOTIC DUTY

COUNTY PRESCRIBING AND QUACKERY TO BE GIVEN SPECIAL ATTENTION

The nation-wide movement for the control and suppression of venereal diseases, instituted at the urgent request of the Council of National Defense and the Surgeons-General of the U. S. Army, Navy and Public Health Service, is a movement in the interest of winning the war, therefore, it is a movement in which every patriotic citizen should enlist. To oppose it is unpatriotic.

With the induction of the first large body of civilians into the military establishment of the United States, it was discovered that upwards of forty per cent. of the men were victims of acute venereal infections, the proportion varying from twenty to sixty per cent. among groups from different sections of the country.

The statement of proportions infected was appalling to the average observer and especially so to those charged with the maintenance of military health and efficiency, but it was not until a government statistician expressed the situation in the money cost to the nation, and time lost in preparing the nation for war, that the hard-headed lay leaders of the nation's affairs sat up and took notice. Then came the demand for action.

In order to determine proper lines of action, authorities on the subject were called to Washington from all parts of the country to confer with representatives of the war council. It was universally agreed that the time had passed for treating the venereal problem with a policy of evasion and timidity and that it was now high time to measure frankly its strength and fight it in the open. Secrecy and false modesty have been its support throughout past generations. The cost in human lives and happiness is immeasurable—greater by far than from any other disease to which human flesh is heir.

For practical purposes it was deemed wise that health authorities should devote their energies chiefly to the prosecution of a vigorous suppressive campaign, leaving the moral, social and economic phases of the problem for the attention of other agencies. In other words, health authorities should approach the problem from its medical and sanitary aspects.

Most important among the suppressive measures agreed to was the promulgation of rules and regulations providing for the reporting and control of infected persons. Very fair and eminently practical regulations have been put in effect in all quarters of the country in accordance with this recommendation. It may be said with credit to Illinois that it was one

of the first states to get in line with the Council's suggestions and that its regulations have since served as a model from which other states have fashioned theirs.

The Illinois Rules for the Control and Suppression of Venereal Diseases were first promulgated on November 1, 1917. A complete revision was made in the early part of the current year, the revised rules becoming effective May 1, 1918.

Naturally, some opposition has been encountered in the effort to put these regulations in operation. In largest part this opposition was due to lack of proper understanding of the regulations and a failure to appreciate their necessity. In every instance where opportunity has been afforded to explain all opposition has been effectively swept aside and many times former opponents of the regulations have become their staunchest proponents.

It has not been difficult to convince any thoughtful, patriotic physician of the necessity for the control of the venereally infected, especially the infected prostitute who left uncontrolled is the most prolific spreader of venereal diseases. The Illinois experiences show that of the eighty-five prostitutes and associates of prostitutes arrested in military zones and submitted to medical examinations, 100 per cent. have some form of venereal disease—94 per cent. having syphilis and 62 per cent. both syphilis and gonorrhoea.

Nor has it been difficult to convince any intelligent physician that the regulations are not opposed to the interests of his patients or himself.

The mistaken idea that the regulations require the reporting of venereal patients by name is easily corrected. Only prostitutes need be reported in full, and no sane man will question the wisdom of that. The doctor's private patient of good repute is fully protected. The name or other information by which the patient may be identified need not be given in the report. Furthermore, all reports are confidential and not available to the public.

The supposition that the reporting requirement will drive patients out of the doctor's office into the drug stores is altogether wrong. The reverse will be true. Druggists are required to report cases coming to their attention, giving full data—name, address, etc.—excepting only those customers who present a bona fide prescription issued by a reputable physician. A very important feature of the program of the state authorities is the enforcement of the reporting rule on druggists and a campaign for the elimination of counter prescribing. Heretofore fully 60 per cent. of venereal treatments have been given in drug stores on druggist's diagnosis and prescriptions. This is a violation of the law and must be stopepd.

The regulations require that the patient will be *regularly* under the care of a physician, otherwise his identity must be revealed to the local health authorities. This gives the physician a control over his patient not heretofore possible, a control which is indispensable to successful treatment. To prevent abuse of this control by unscrupulous doctors or

quacks special provisions, amply sufficient to the needs, have been written into the rules.

The regulations merit the most careful reading. They must be understood to be fully appreciated. Once understood, it must be acknowledged that they are fair and practicable, indispensable to public welfare, particularly so in this crisis in the nation's affairs. They work a hardship on no one, they are in the interests of the patient, the doctor, the pharmacist, the public and most of all, they are in the interest of conservation of man power and the winning of the war.

Briefly summarized, the Revised Illinois regulations, effective April 10, 1918, are as follows:

Rule 1. Venereal Diseases Dangerous to Public Health.—Syphilis, gonorrhoea and chancroid declared communicable diseases and dangerous to the public health.

Rule 2. Prostitution a Prolific Source of Venereal Diseases.—Prostitution declared to be a prolific source of venereal diseases, and the repression of prostitution to be a public health measure.

Rule 3. Venereal Diseases to Be Reported—By and to Whom.—Every physician, drugless healer, nurse, attendant, druggist or pharmacist, dentist, superintendent or principal officer of a hospital, jail, house of correction, asylum, home or similar institution, or other person having knowledge of a known or suspected case must within twenty-four hours report such case to the local health authorities.

Rule 4. Contents of Report.—Excepting as provided in Rule 5, the name, address, occupation, probable source of infection, etc., shall be stated in the required report.

Rule 5. When Identity of Patient May Be Concealed.—Under the following circumstances the patient's case or "Key" number may be given in lieu of name, explicit address and other information by which the patient's identity would be revealed may be omitted from the report:

- (1) If the diseased person—
 - (a) is regularly under the care of a reputable physician;
 - (b) is not a prostitute or an associate of prostitutes;
 - (c) is not in active service of military establishment, and
- (2) If attending physician—
 - (a) Gives patient full and proper instruction in these rules and the precautions which must be taken to prevent spread of infection;
 - (b) Delivers to patient copy of these rules and booklet of advice and information issued or approved by the State Department of Health;
 - (c) Keeps an accurate and complete record of the case;
 - (d) Places case or Key number on all prescriptions issued to patient;
 - (e) Assumes responsibility for the faithful observance by patient of these rules and all

necessary precautions to prevent the spread of infection.

Rule 6. Form of Report—The detail of information required in report is set forth in this section.

Rule 7. Report of Termination of Case—When treatment of patient is terminated local health authorities must be notified. If patient is dismissed while still in an infectious condition, physician must advise patient what further treatment is necessary, and in event that notice of transfer to another physician is not received by first physician within ten days, all facts must be made known to local health authorities.

Rule 8. Druggists to Keep Record of Sales of Venereal Disease Remedies and Make Report of Same—Every druggist or pharmacist who sells any remedy for venereal diseases must keep record of the name, address, etc. of purchaser together with description of the article purchased and shall report same to local health authorities within twenty-four hours, *provided, however, that in case a person presents a bona fide prescription issued by a legal practicing physician which shows on its face the case or key number of the physician, then the record kept by the druggist and the report thereof shall in lieu of name and address show such case or key number.* These records shall be open to inspection by the local health authorities and the State Department of Health only.

Rule 9. All Reports Confidential—All information and reports concerning person infected with venereal diseases shall be confidential and shall be inaccessible to the public.

Rule 10. Circular of Information—Any person who treats a person affected with a venereal disease must give such diseased person a copy of these rules and also a circular of information and advice concerning venereal disease furnished or approved by State Department of Health.

Rule 11. Change of Physicians—Physicians applied to for treatment must inquire of patient if previously treated for this infection, and if so by whom treated. He shall within ten days of last treatment by former physician notify such physician of transfer of the case to his attention, and shall secure from such former physician the case or key number under which the patient was reported, if so reported, and in his report of the case of the local health authorities he shall give all facts relating to this transfer, together with the case and key number of former physician and any similar designation employed by himself. *Failure to comply with these provisions will make it compulsory for former physician to report identity and address of his former patient.*

Rule 12. Diagnosis—Local health authorities may require attending physician to submit specimens for laboratory diagnosis.

Rule 13. Patient May Apply to Health Authorities for Diagnosis—To prevent improper acts on part of quacks and unscrupulous practitioners it is provided that any person being treated for a venereal disease

who may suspect an incorrect diagnosis of his disease, or who may have a suspicion that he is being continued under treatment an unnecessary period of time, or who is being held under treatment under the threat that his identity will be revealed, if he transfers to another physician, may apply to the local health authorities for examination and advice, or he may transfer to another physician in accordance to the provisions of Rule 11.

Rule 14. Exposure of Others to Infection Prohibited—It is unlawful for any person having a known or suspected venereal disease to perform or commit any act which exposes any other person to the infection.

Rule 15. Local Health Authorities to Report to State Health Department and to Military Authorities—Local Health authorities must promptly report all cases reported to them to State Department of Health. When the diseased person is actively attached to military or naval establishments report also must be made to the medical officer of the military or naval organization to which the diseased person belongs.

Rule 16. Medical Care for Indigent Persons—When advised of a venereal disease in person unable to pay for necessary medical attention, local health authorities shall report the facts to the overseer of the poor whose duty it is to see that such treatment is afforded.

Rule 17. Quarantine Requirements—Whenever the attending physician or the health officer deems it necessary to isolate a diseased person in order to safeguard the public health, such person shall be quarantined.

The physician or health officer shall exercise extraordinary diligence to see that the diseased person shall not expose others to infection.

The diseased person shall not, during the period of infectiousness, be employed or engaged in any occupation involving handling or serving of foodstuffs, care of or nursing of children, or the sick, or any other occupation the nature of which is such that infection may be imparted to others.

Whenever possible, cases of venereal diseases should be removed to a hospital for treatment.

Period of control in all cases shall continue throughout the period of infectiousness of the disease; for syphilis until all lesions of skin and mucous membranes are fully healed, for gonorrhoea until two successive smears taken not less than forty-eight hours apart fail to show gonococci; for chancroid, until all lesions are fully healed.

Rule 18. Physicians Responsibilities Under Rule 17—In case the physician reports the diseased person by case or key number such physician is held responsible for strict enforcement of rule 17. When the physician has reason to believe that the patient is not complying with the rules such physician shall immediately report the name and address of the offending patient to the local health authorities.

Rule 19. General Duties of Local Health Authori-

ties—In addition to other duties prescribed by these rules, the local health authorities shall:

- (1) use every available means to ascertain the existence of venereal disease in the community;
- (2) ascertain sources of infection and exposures to same;
- (3) Make examinations of those persons reasonably suspected of having venereal disease and who are not conducting themselves in a manner compatible with public health safety. (Owing to prevalence of such diseases among prostitutes and persons associated with them, all such persons may be considered within the above class);
- (4) In making examination of females to appoint, on request of the patient, when practicable to do so, a woman physician.
- (5) Keep all records pertaining to cases of these diseases in files not open to public inspection and to make every reasonable effort to keep secret the identity of those affected;
- (6) Examine known or suspected prostitutes committed to or detained in any calaboose, police station or jail to ascertain the existence of any venereal disease and to quarantine those found infected until such time as it may be definitely ascertained that quarantine may be terminated without endangering the public health;
- (7) Co-operate with proper officials whose duty it is to enforce laws against prostitution.
- (8) Report all cases and all action in such cases to State Department of Health.

Rule 20. Placarding, When Permitted—The following premises may be placarded with venereal disease warning signs when a diseased or supposedly diseased inmate of the premises will not consent to examination or removal to a hospital or other suitable quarters:

- (1) Premises used for immoral purposes;
- (2) Premises where diseased person cannot be properly isolated or controlled.

Rule 21. Placarding—Contents, Color and Size of Placard—Whenever premises are placarded in accordance with Rule 21, it shall be done in the following manner:

- (1) Premises occupied by known case: A red card 11x14 inches bearing the inscription in bold face type "VENEREAL DISEASE HERE," etc.
- (2) Premises occupied by a person under suspicion of having a venereal disease; a red card, 11x14 inches, bearing inscription "QUARANTINE" in bold faced type, and "SUSPECTED VENEREAL DISEASE" in type not less than $\frac{5}{8}$ inches in height.

Defacement or concealment of such placards or their removal by other than local or state health authorities is strictly prohibited.

Rule 22. Certificates of Freedom From Venereal Disease—No physician, local health authority or other person shall issue certificates of freedom from venereal diseases to any person known to be or suspected of practicing prostitution.

Rule 23. Removal From One Community to Another—No person having a venereal disease shall move or be moved from one health jurisdiction into another without first securing permission to do so from the local health authorities of the place from which removal is to be made or from the State Department of Health. (The chief object of this rule is to prevent one community relieving itself of an undesirable burden at the expense of another.)

Rule 24. Medical Examination of Inmates of Jails, Etc.—Any person, committed to or confined in, either temporarily or for a definite period of time, any jail, house of correction or other penal or correctional institution, detention hospital, or any state, county or city charitable institution shall, at the time of admission thereto, be given a thorough medical examination to determine the existence of any venereal disease, and if such person is found to be infected with any venereal diseases, such person shall be promptly removed to quarters where proper treatment and control can be had, and there held in quarantine until such time as it may be definitely ascertained that quarantine may be terminated without endangering the health of other inmates or the health of the public.

Rule 25. Definitions—The following words and phrases, as used in these rules, shall be defined as follows:

"Venereal Disease" (a) syphilis in the infectious stages; (b) active gonococcus infection; or (c) chancre.

"Prostitute" a person known to be practicing sexual intercourse promiscuously;

"Diseased Person" one infected or suspected of being infected with a venereal disease.

Rule 26. Giving False Information—Any person who knowingly gives any false information in any reports required by these rules, subjects himself to the prescribed penalty.

Rule 27. Penalties—Health and other officers who fail, neglect or refuse to enforce these rules, and all persons who violate them, subject themselves to a fine of not to exceed \$200 for each offense or to imprisonment in the county jail not to exceed six months, or both.

DEATHS FROM AUTOMOBILE ACCIDENTS IN ILLINOIS DURING 1917.

The Division of Vital Statistics of the State Department of Public Health reports that there were 551 deaths due to automobile accidents in Illinois during 1917. Three hundred and twelve of these deaths occurred in the City of Chicago and 239 in the State outside of Chicago. In Cook County outside of the city there were 37 deaths; in Kane and St. Clair Counties 12 each; in Winnebago County 11; in Sangamon and Vermilion Counties, 10 each; and in Will and La Salle Counties 9 each. The largest number of deaths for any month in the year was in September with November a close second.

The total number of deaths from automobile accidents in 1916 was 410; 251 of which occurred in the

City of Chicago and 159 in the balance of the state. The figures for 1917 show an increase of 141 deaths with 61 of this increase in Chicago and 80 of the increase in the rest of Illinois.

THE ILLINOIS PLAN FOR THE CARE OF RETURNED TUBERCULOUS SOLDIERS.

The Illinois plan for the care of returned tuberculous soldiers, of whom there are approximately 800 at this time in the various counties of the state, has been adopted by a large number of other states and will in all probability form the basis of all activities in this direction carried out by the American Red Cross throughout the nation.

The so-called Illinois plan is incorporated in an agreement between the Central Division of the American Red Cross, the State Department of Public Health and the Illinois Tuberculosis Association, in which it is agreed that these three agencies shall cooperate in securing adequate care and treatment for the returned tuberculous soldier whether he may be discharged "in line of duty" or "not in line of duty." It is further agreed that the Central Division of the American Red Cross through the home service section of its local chapters shall provide care for the returned tuberculous soldiers during the interim between their return to their home communities and the time that more permanent provision is made for them and shall contribute one-third of the expense for their more permanent care. In this contract it is agreed that the Illinois Tuberculosis Association, after initial contact with the returned tuberculous soldier by the Central Division of the American Red Cross, shall cause an expert examination and diagnosis to be made in the case of each returned tuberculous soldier; shall outline the proper method of treatment to be pursued and shall make every possible effort in conjunction with the local chapter of the Red Cross to provide means for the more permanent care of the returned soldiers.

This monumental task is now being carried out from the Springfield offices of the Illinois Tuberculosis Association, from which physicians and nurses are operating, working in close co-operation with the attending physicians of the individual soldiers.

At a recent conference in Kansas City of tuberculosis workers and Red Cross Officials, representing twenty states, held in conjunction with the National Conference of Social Work, the entire session was devoted to a consideration of the Illinois plan and its application to the peculiar needs of other states of the union. The Bulletin of the National Tuberculosis Association for May is devoted almost entirely to tuberculosis war work in Illinois.

SANITARY ENGINEERING ACTIVITIES.

The Division of Sanitary Engineering of the State Department of Public Health has just completed a limited survey of the zones surrounding Camp Scott near Belleville to determine the mosquito-breeding

areas and to work out the best method of improving local conditions. Sanitary investigations have also been carried out in and about East Peoria in an effort to improve conditions so as to safe-guard the health of the soldiers at Camp Herring.

In conjunction with the general survey at Waukegan the Division of Sanitary Engineering has carried out a study of the waterworks, sewerage, garbage disposal and general sanitary conditions in the vicinity of that city.

SCHOOL FOR COMMUNITY NURSES TO OPEN

The Illinois course for community nurses to be conducted in Springfield under the direction of the State Department of Public Health, the State Department of Public Welfare and the Illinois Tuberculosis Association and in co-operation with the Chicago School of Civics and Philanthropy and the Elizabeth McCormick Memorial Fund, plans for which were announced in these pages in May, will be begun about June 15th under the supervision of Miss R. Eleanor Gillespie, who has been loaned for this special service by the Public Health Nurses' School of Western Reserve University at Cleveland.

There will be no fees or charges in connection with this course, but no nurses will be eligible to the course who are not registered in Illinois or the States in which they reside and unless they will agree to accept positions in public health nursing service in Illinois upon completion of the course. It is said that there are over fifty positions in public health nursing service in the State that are now vacant. Applications for admission to this course for community nurses should be made to Dr. George Thomas Palmer, Springfield, Illinois.

Society Proceedings

COOK COUNTY

CHICAGO MEDICAL SOCIETY

Regular Meeting, April 17, 1918

JOINT MEETING CHICAGO MEDICAL SOCIETY AND THE CHICAGO NEUROLOGICAL SOCIETY

Preparation for the Prevention, Care and Treatment of War Neuroses (Shell Shock) in the American Army, Frankwood E. Williams, Acting Medical Director, National Com. for Mental Hygiene, New York, New York.

Regular Meeting, April 24, 1918

1. Women in War Time Industries, Alice Hamilton.
2. Reclamation of the Wounded Soldier, Hugh Mackechnie.
3. The Early Diagnosis of Lead Poisoning, with Special Reference to Abdominal Pain, George L. Apfelbach.
4. A Lantern Slide Lecture on Occupational Diseases, Mr. Robt. Jones, Chief Illinois Department of Factory Inspection, Department of Labor.

Regular Meeting May 1, 1918

1. Pyelitis in the New Born, H. F. Helmholtz,
Discussion—N. Sproat Heaney, Walter H. O. Hoffmann.

2. Personal Observations and Experience with Goiter, Coleman G. Buford.

Discussion—David J. Davis, Prof. Rollin D. Salisbury, Dean of School of Geology, University of Chicago.

3. Addresses Relative to the Needs of the Government for More Medical Officers, Col. Henry I. Raymond, Department Surgeon of the Army; Major E. J. Doering, President Board of Examiners; Major A. J. Ochsner.

*Chicago Medical Society, Regular Meeting,
May 8, 1918*

1. The Borderline Case and the State, Josephine Young.

Discussion, Ed. H. Ochsner, Thor Rothstein, and Judge Harry Olson.

2. The Proper Diagnosis of Impaired Hearing With Reference to Prognosis and Treatment, Robert Sonnenschein.

Discussion, Otto T. Freer.

3. The Importance of the Sigmoidoscope in the Diagnosis of Disease in the Terminal Colon and Rectum With a Discussion of 251 Cases, Golder Lewis McWhorter.

Discussion, Coleman G. Buford.

Regular Meeting, May 15, 1918

SYMPOSIUM ON CARCINOMA

1. Carcinoma From the Standpoint of the Surgeon, Arthur Dean Bevan.

2. Carcinoma From the Standpoint of the Pathologist, H. Gideon Wells.

3. Carcinoma From the Standpoint of the Dermatologist and X-Ray Treatment, Wm. Allen Pusey.

4. Carcinoma From the Standpoint of the Internist, B. W. Sippy.

5. Carcinoma From the Standpoint of the Gynecologist, Emil Ries.

FULTON COUNTY

The eighty-second meeting of the Fulton County Medical Society was held in the parlors of the Y. M. C. A. at Canton, May 7, 1918, and was called to order at 1:30 p. m. by President Crouch.

Dr. C. E. Howard was appointed secretary pro tem and reading of minutes of previous meeting postponed.

Application for reinstatement of Drs. Whitlock and Herschle was read and on motion of Drs. Coleman and Howard reinstatement was ordered.

Application of Dr. Whitlock to transfer to the Peoria County Medical Society was granted.

Dr. C. U. Collins, of Peoria, gave a paper on "Parotiditis and Its Treatment," with slides.

Dr. Geo. Parker gave a paper on "Diagnosis of Exophthalmic Goiter."

General discussion followed and Drs. Collins and Parker were given a vote of thanks by the Society.

Fifteen members and two visitors present.

CHICAGO OPHTHALMOLOGICAL SOCIETY

Meeting of Nov. 19, 1917—Continued

NARROWING OF THE PUPIL DOES NOT LOWER NORMAL INTRAOCULAR TENSION

DR. ANDY M. CARR read a paper on this subject in which he reported 100 cases from the Research Laboratory of Cook County Hospital. These observations were made to determine whether or not there is a lowering of normal intraocular tension when the pupils are made smaller. The necessity for determining this matter arose from routine clinical work on three different types of cases. First, borderline glaucoma cases. In these cases the author dealt with slightly enlarged pupils, suspicious cups, inconclusive narrowing of the fields, and a tension above say, 25 mm. Hg. It was often noted that a definite lowering of tension after a miotic, while at other times there was no change.

2. Definite high tension simple glaucoma in one eye, with tension well within so-called normal limits in the other eye. The tension frequently fell in this second eye, although in some cases it remained unchanged after miosis. (Storey.)

3. Acute inflammatory glaucoma in one eye with normal tension in the other eye unaffected by narrowing of the pupil. (Field.)

It is evident that in these types of cases it is of prime importance to know whether or not normal tension is reducible by miotics.

The material consists of 100 cases studied at the Cook County Hospital. They were patients that gave no history of eye trouble and were not seriously sick. Their ages ranged from 12 to 67 years. Only cases in which satisfactory tonometer readings could be made were used.

As in a previous series of cases, all tension readings were taken with the Schiötz tonometer, and holocain in 2 per cent. solution was used as an anesthetic. The size of the pupil was first noted, then the tension taken. One half hour later the tension was again taken. The pupils were then rather quickly contracted with eserine salicylate in one or two per cent. solution. The average size of the pupils after the miosis was one and a quarter mm. All pupils were contracted to at least 2 mm. Holocain was again instilled and the final tonometric readings taken.

In no case was there a lowering of tension following the contraction of the pupil greater than 3 mm. Hg.

This amount is well within the recognized limits of error of observation in the use of the tonometer. There was in no case any difference between the first and second readings before the miosis.

Following the use of the eserine many patients

complained of diminution of vision and headache; a few of them complained of pain within the eyes; a few became nauseated, while four or five vomited. The pupils remained contracted a variable length of time—in a few eyes as long as 72 hours.

From this series of 100 cases the author concludes that intraocular tension in normal eyes is not to be lowered by the narrowing of the pupil. The corollary of this statement, namely, that a decrease of intraocular pressure following the use of a miotic necessarily means that an eye is glaucomatous, is not even herewith postulated and does not properly come within the scope of the paper. The author verified the statement frequently made, namely, narrowing the pupil does not lower normal intraocular tension.

MAJOR H. WORTHINGTON, Sec.

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY

Meeting of Nov. 20, 1917—Continued

DR. JOSEPH BECK said the advantage of the burr was that one could get down to the mucous membrane of the antrum without entering the antrum. He would consider it a failure in the technic if he got into the antrum. In the case in which he opened the antrum he did not pack with wax, but treated it as an open wound and subsequently used bismuth injections and got a complete recovery.

As to the congenital side of the question, he had x-ray plates of a father and daughter who had dentigerous cysts. He operated the father fourteen years before the daughter. In looking over the work of Killion, he spoke of the dentigerous cysts in the nasal cavity and one of the earliest cases he reported was such a cyst which went into the nasal cavity and included it.

Replying to a question from Dr. Frank, Dr. Beck said that recurrences usually were noted two or three months after the closure.

DR. IRA FRANK, closing, said his patient had been free from recurrence for about a year. The cyst in his case was removed by making an incision on the buccal surface of the superior maxilla, similar to that employed in the radical antrum operation. The mass was exposed and incised, after removing the teeth, which were firmly imbedded, the cyst was easily shelled out.

DR. CARL F. BOOKWALTER presented a paper entitled: "The Intranasal Operation for the Relief of Chronic Dacryocystitis."

The operation established a permanent opening from the nose into the lachrymal sac and nasal duct. Drainage thus obtained relieved the suppuration and way was provided for tears to pass into the nose. The opening was made just in front of the middle turbinate. It should extend nearly to the top of the lachrymal sac and almost down to the inferior turbinate, the width corresponding to the width of the sac and duct. A window of nasal mucosa was removed over the intended opening and enough of the nasal process of the superior maxillary and of the lachrymal bones removed to expose the sac and duct to the extent above indicated.

The exposed nasal side of the sac and duct was removed, leaving the lateral side in place. The opening should be large and the edges must be kept smooth till healing is complete.

The results were ideal if the operation was well done and after treatments carefully carried out.

Suppuration was relieved invariably. There was no tearing if the canaliculi were in reasonably good condition.

He had operated on more than twenty cases in the past three years with very satisfactory results.

Personals

Dr. Willis O. Nance, Chicago, is again chosen chairman of the council committee on health.

Dr. Haim I. Davis has been appointed physician to the Cook County Psychopathic and Detention Hospital.

Harry Lee Huber was awarded the Ricketts prize (income from \$5,000) for research work on new methods of treating tuberculosis, May 2.

Dr. Homer V. Halbert has been elected president of the Empire State Society of Chicago.

Dr. Wm. H. Burmeister, coroner's physician, of Chicago, has entered military service.

Major Kellogg Speed has been transferred from service with base hospital No. 12 to service with the 42d Division, A. E. F.

Dr. H. C. Moss has been appointed district surgeon for the St. Louis division of the Illinois Central Railway, with headquarters at Carbondale.

Dr. J. F. Percy, Capt. M. R. C., Galesburg, was the guest of honor at an elaborate banquet given by the Central Illinois Surgical Association at the Creve d'Coeur Club building in Peoria, May 12. He then proceeded to Ft. Riley for duty.

Dr. James E. Redmon, of Decatur, supposed to be in hospital service behind the British front, writes that he has been within sound of artillery fire for four weeks.

Dr. H. E. Pinkerton, of New Holland, has been appointed assistant physician to the Chicago State Hospital.

Dr. W. D. Chapman, of Silvis, has been commissioned Captain, M. R. C., and is stationed at Camp Fremont, San Francisco.

Dr. W. K. Murray, Chicago, has been commissioned Captain, M. R. C., and assigned to Fort Dodge for active duty.

Dr. Willis Fred Harvey, Rushville, commissioned Lieutenant, M. R. C., was ordered to report at Fort Sheridan.

Dr. Clarence W. Leigh, Chicago, Major, M. R. C., expects active service shortly.

Dr. C. L. Weber, Cairo, has been promoted Major, M. R. C., and expects active duty overseas soon.

Dr. E. M. Sala, Rock Island, has been commissioned Captain, M. R. C.

Dr. M. W. Hanson, of Easton, at Fort Benjamin Harrison, has been promoted Captain, M. R. C.

Dr. Gustav E. Eek, of Geneva, has been commissioned Captain, M. R. C., and is stationed at Camp Jackson, S. C.

Lieut. Harold Reagan, of Canton, was a patient in Prince of Wales Hospital, London, in April, as the result of a shell wound received in Flanders.

Dr. A. C. Czibulka, of Warren, underwent an appendectomy at Henrotin Hospital, Chicago, recently.

The circular on "The Tuberculosis War Problem of the United States" by Dr. George Thomas Palmer of Springfield, is said to have reached numerous editions and the plan has been adopted entirely by several states and in modified form by practically all.

Dr. H. V. Lewis, of Lawrenceville, has been so much improved by a sojourn in Arizona the past winter that he has resumed practice.

Dr. S. L. Thorpe, of Clinton, has been ordered to report for duty in the Medical Reserve Corps at Camp Dodge.

Major Hiram E. Ross, of Danville, has been reported severely wounded in action in France.

Lieut. A. B. Zwaska, Roekton, entered the service at Ft. Riley last month.

Dr. Roy Griffey, of Oblong, has been commissioned first lieutenant, M. R. C.

Dr. Edwin L. Winslow, Danville, was commissioned captain, M. R. C.,

Dr. E. W. Ryerson, Chicago, is now on active military duty, and is stationed at Camp Funston, Kansas. His practice will be continued at his present office in the Peoples Gas Building by Dr. Robert O. Ritter, who has been Dr. Ryerson's assistant for the past seven years.

Dr. Daniel N. Eisendrath read a paper on "Modern Methods of Diagnosis in the Surgery

of the Urinary Tract" before the Kane County Medical Society on May 8, 1918.

News Notes

—A discussion of the proposition to name a school for the late Dr. John B. Murphy by the Chicago Board of Education was enlivened by a story to the effect that Dr. Murphy did not invent his celebrated button for anastomosis. Dr. James E. Keefe states that the idea of the spring in the button came to Dr. Murphy while they were fishing in the Wisconsin lake region.

—The importance of military training for physicians who come from civil practice is well set forth by "C. B." in the *Chicago Post*. Certainly the strictly professional work requires careful study for the great majority of practitioners, while the extensive and complicated "paper work" is absolutely unknown outside the service.

—The Iowa State Medical Society is said to have placed a fifty year ban on the purchase of all medical instruments or chemicals "made in Germany."

—It is said that medical students on completion of one year's work will be eligible to enter the medical reserve which will insure the completion of their medical course without being drafted.

—The National Physicians' Home Association, with membership in three states, has been incorporated in Springfield, to provide an institution for members who return from military service in need of care. Dr. J. C. Walters is president; Dr. E. A. Walsh, secretary-treasurer, and Dr. A. Lee Hagler, vice-president.

—The following members of the Winnebago Medical Society are in war service: Dr. E. Runquist, Dr. W. E. Park, Dr. J. E. Lundholm, Dr. Gerald R. Allaben, Dr. A. A. Willander, Dr. W. P. Earngey, Dr. Edwin Peterson, Dr. John R. Porter, Dr. C. M. Cheadle, Dr. George P. Gill, Dr. W. W. Hume.

—It is interesting to learn that The Abbott Laboratories of Chicago are sending to physicians, on request, convenient trial tubes of ten Chlorazene tablets. In view of the growing importance of the Dakin discoveries, we suggest to our readers that they avail themselves of this generous offer.

—"Dr." Richard Langfield, Chicago, was fined

\$100 and costs by Judge Haas, May 14, for practicing medicine without a license.

—Dr. Charles H. Speneer was given thirty days in the Wheaton jail by Judge Landis on the charge of failure to register for the draft, May 10.

—Dr. C. W. Kimery, of Sullivan, who was beaten by masked men two years ago, is defendant in a suit for divorce for extreme cruelty. The clubs used at the beating were evidently stuffed too much.

—The advertising stunts of Drs. Rainey and Alphabetical Zeigler have recently drawn the fire of the *Chicago Tribune*. They are said to be "in bad" with the redoubtable Gen. James E. Stuart, chief of postoffice inspectors.

—The Chicago Medical Women's Club is raising funds to equip two mobile hospitals for the suffering women and children in the war zone of France.

—The Peoria Medical Society held a memorial service May 7 for Drs. R. W. Baker, W. R. Allison, Joseph Huber, R. A. Kerr, Rufus Dumars and E. M. Eckard. Dr. O. B. Will acted as chairman and Drs. W. T. Sloan and C. U. Collins gave addresses.

—The McLean County Medical Society, May 14, voted to form a war committee to investigate every physician in the county with a view to recommend for military service those who can undertake it with the least difficulty.

—It is said that the University of Chicago will share largely in the estate of Dr. E. Fletcher Ingals, eventually.

—The University of Illinois, College of Medicine, will run three terms a year of four months each, beginning June 3. Students may enter at any quarter and complete the course in three years instead of four.

—The twenty-eighth annual report of the Visiting Nurse Association of Chicago, for 1917, records 241,352 visits in the homes of 34,427 patients by 96 nurses.

Marriages

VICTORIA McLAREN MOORE, M. D., to Lewis Earle Barnes, both of Chicago, May 13.

ARLEY GLENN EVERHART, M. D., to Miss Emma J. Radtke, both of Chicago, May 11.

Deaths

CHARLOTTE KENT BAILEY, Lyons, Ill.; Bennett Medical College, Chicago, 1910; aged 40; fell from the second story porch at her home, April 29, and was killed.

WILLIAM G. CARON, Aurora, Ill.; Rush Medical College, 1897; aged 44; died at his home, April 22, from pneumonia.

JOHN ALEXANDER VINCENT, Springfield, Ill.; Eclectic Medical Institute, Cincinnati, 1868; aged 87; once mayor of Springfield; formerly a member of the Illinois General Assembly; and one of the State Board of Health; died at his home, May 16.

ARTHUR J. MORRIS, Bloomington, Ill.; Hahnemann Medical College and Hospital, Chicago, 1891; aged 63; a member of the Illinois State Medical Society; died in the Kelso Hospital, Bloomington, April 23.

ELMER M. ECKARD, Peoria, Ill.; Rush Medical College, 1896; aged 45; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society, and American Association of Railway Surgeons; formerly coroner of Peoria; chief surgeon of the Toledo, Peoria and Western Railway; and local surgeon for the Chicago, Peoria and St. Louis Railway; died at his home, April 21.

OLIVER ALLEN MCINTOSH, Macomb, Ill.; Rush Medical College, Chicago, 1903; aged 53; formerly a Fellow of the American Medical Association; died at the Marietta Phelps Hospital, Macomb, Ill., January 8, from septic infection.

JOHN A. WHEELER, Chicago; University of Michigan, Department of Medicine and Surgery, 1852; aged 90; was burned to death at his summer home in South Haven, Mich., April 28.

FIREMEN C. BROOKE, Chicago; Eclectic Medical College of Pennsylvania; Philadelphia, 1866; aged 75; also a druggist; died April 16.

FREDERICK B. KOBISK, Lombard, Ill.; Jenner Medical College, 1906; aged 39; formerly a Fellow of the American Medical Association; a member of the Illinois State Medical Society; was instantly killed, April 25, when a train crashed into his automobile.

JAMES E. HENDERSON, Springfield, Ill.; Northwestern University Medical School, 1883; aged 62; a colored practitioner; was found dead in his office, April 12, from gunshot wound, self inflicted, it is believed, with suicidal intent.

THOMAS P. GUILFOYLE, Cherry, Ill.; Northwestern University Medical School, Chicago, 1903; aged 40; a Fellow of the American Medical Association; died suddenly at his home, April 18, from embolism.

JOSEPH SHERMAN ADSIT, Hoopston, Ill.; Chicago Homeopathic Medical College, 1891; aged 50; a member of the Illinois State Medical Society, died April 1.

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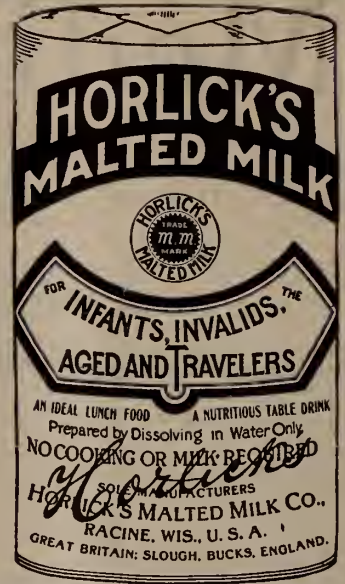
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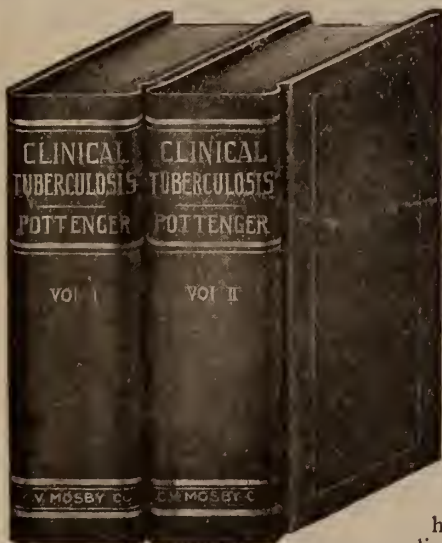
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